

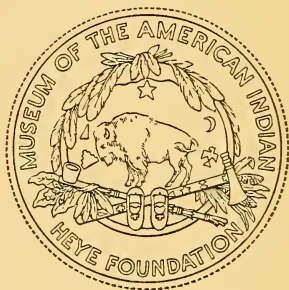
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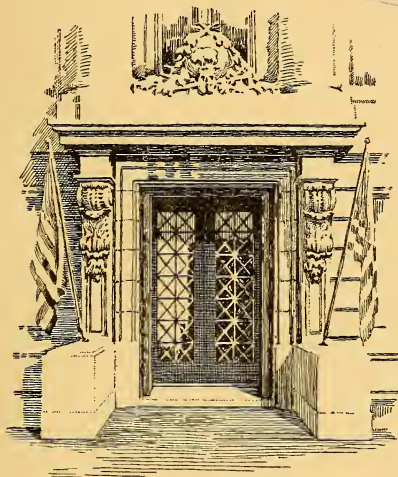
NOTES ON
IROQUOIS ARCHEOLOGY

INDIAN NOTES



MUSEUM OF THE AMERICAN INDIAN

AND MONOGRAPHS



HEYE FOUNDATION



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INDIAN NOTES AND MONOGRAPHS

EDITED BY F. W. HODGE



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TIONS RELATING TO THE
AMERICAN ABORIGINES

NOTES ON IROQUOIS ARCHEOLOGY

BY

ALANSON SKINNER

NEW YORK

MUSEUM OF THE AMERICAN INDIAN
HEYE FOUNDATION

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THIS series of INDIAN NOTES AND MONOGRAPHS is devoted primarily to the publication of the result of studies by members of the staff of the Museum of the American Indian, Heye Foundation, and is uniform with HISPANIC NOTES AND MONOGRAPHS, published by the Hispanic Society of America, with which organization this Museum is in cordial coöperation.

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IROQUOIS ARCHEOLOGY

BY
ALANSON SKINNER



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NOTES ON IROQUOIS ARCHEOLOGY

BY ALANSON SKINNER

I.—ARCHEOLOGICAL PROBLEMS OF THE NORTHERN IROQUOIS

INTRODUCTION



IT IS well known that, politically, socially, and militarily, the northern Iroquoian tribes were pre-eminent among all the Indians of forested North America; indeed, in their political achievements they were probably without equal in the New World. It is less generally realized that their material culture, while not so remarkable as their mental attainments, was, on the whole, superior to that of all their native contemporaries and predecessors in Canada, New England, and the Middle Atlantic states, though meeting perhaps equally high types

INDIAN NOTES

of development in the Ohio valley, in Georgia, Tennessee, and the Gulf states. While it is true that branches of the Iroquoian stock, exemplified especially by the Cherokee, inhabited the latter districts, these peoples seem to have been of a different culture. For the purpose of this paper, therefore, the term Iroquois will be used to include only the tribes of the Iroquoian family inhabiting what is now New York, Pennsylvania, and lower Canada.

In a general way, Iroquois artifacts have been figured and described, particularly by Beauchamp, in his valued pioneer studies of New York archeology,¹ and by Boyle for Canada.² Nevertheless, with few exceptions, published data of intensive field-work at any given site or among any people of the northern Iroquois group have been lacking; the exceptions being Parker's report on the great Erie site at Ripley, N. Y.,³ and the bulletins by Houghton dealing with the Seneca and Neutral remains on and near the Niagara frontier.⁴

There are certain homogeneous features of Iroquois culture which are constant through-

out the range. These criteria, as evolved by Parker in his illuminating article on "The Origin of the Iroquois as Suggested by their Archeology,"⁵ by Houghton,⁶ and by the present writer, may be briefly combined and recapitulated, as follows:

(1) *Location of Dwellings*.—The fortification of hilltops by means of log stockades or earthen circumvallations was quite general until the historic period, when the possession of firearms and other advantages allayed fears of siege or invasion. At least, this is true of the tribes of New York and Pennsylvania, but data on the Canadian branches of the stock are less positive.

(2) *Arrowpoints*.—Flint arrowpoints, where found at all, are triangular in type, to the exclusion of all other forms, and Iroquois sites are marked by a scarcity or absence of many other widely distributed varieties of chipped-stone work, except oval knives and scrapers.

(3) *Bone and Antler Implements*.—The occurrence of a great variety and abundance of implements of bone and antler.

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	<p>(4) <i>Pottery</i>.—The existence of a high and specialized development of the potter's art in some regions, and a general abundance of earthenware.</p> <p>(5) <i>Pipes</i>.—The presence of an extraordinary development of the manufacture and use of earthenware tobacco pipes, with a later transference of certain features of this art to stone.</p> <p>(6) <i>Non-use of Certain Materials</i>.—The apparent distaste in nearly all localities for the use of certain materials highly prized for the manufacture of chipped-stone artifacts by peoples of other cultures, the list including argillite, quartz, rhyolite, and various light-colored jaspers. This is not true of the tribes resident on the Susquehanna, for the writer has personally taken typical, small, triangular arrowpoints made of most of the above materials from graves and village-sites of the Andaste on both the upper and the lower course of that stream.</p> <p>(7) <i>Absence of Certain Forms of Stone Artifacts</i>.—The absence of certain well-known forms of pecked, polished, and chipped stone artifacts, such as the grooved</p>
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<p>axe, grooved adze (the long pestle is reported by Parker as occurring in rare instances), the "plummet," steatite vessels, the rubbed slate point, bayonet slate, semilunar knife, and stemmed and notched arrowpoints. Native copper articles are almost unknown east of the Huron and the Neutral territories, though the writer has seen two authentic beads of this material from a prehistoric site in Jefferson county, New York.</p> <p>(8) <i>Absence of Problematical Slates</i>.—All the problematical slate forms, including tubes, bird and bar amulets, two-holed gorgets, and bannerstones are absent.</p> <p>(9) <i>Absence of Certain Pipe Forms</i>.—Certain pipe forms, such as the platform or monitor type, and the straight or slightly bent stone and clay tubular pipes, are lacking.</p> <p>(10) <i>Beads</i>.—Beads of stone, bone, shell, and sometimes of pottery, were extensively used, and their abundance was greatly augmented in historic times by the acquisition of glass trade beads.</p> <p>In addition to the articles mentioned above, there are found many kinds of arti-</p>	
AND MONOGRAPHS	

facts that are common to other cultures in the same and in neighboring regions. Among these are celts, mullers, hammer-stones, net-sinkers, and stone mortars, and certain common bone utensils, such as awls. It may further be said that in the manufacture of such particular artifacts as were known to the Iroquois, excepting those of chipped flint, specimens of their making generally show better workmanship than is found among their neighbors.

In his "Origin of the Iroquois"⁷ Parker gives a list of centers of northern Iroquois population; but the writer believes that it is possible to go farther and to define certain definite areas, each marked not only by Pan-Iroquoian features but by such local differentiations as serve to distinguish it from all other regions, even of the same general culture. These do not altogether correspond with the centers as presented by Parker, consequently the writer has rearranged the grouping according to data based on his field observations and from study of the collections in the Museum of

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the American Indian, Heye Foundation, and elsewhere in New York and in Canada.

Before undertaking this classification it may be well to allude to the fact that, throughout the entire area in question, the existing remains may be identified with the tribes by which they were made, because it may often be determined, through historic sources, who the inhabitants of a given district were. It thus becomes possible, by comparison of the artifacts from known localities with those of prehistoric stations of unknown origin, to determine the latter with no uncertain degree of accuracy. This enables the archeologist to study and to correlate his data with greater facility than in any other section east of the Mississippi.

In his classification, the writer prefers to combine Parker's centers under two heads, an eastern and a western, on the ground that, while there are local tribal cultural variations in each instance, they possess so many characteristic features in common that their division into cultural units of equal value with and independent

AND MONOGRAPHS

of the parent group is unwarranted. Hence they will be considered as subdivisions. Parker himself recognizes an eastern and a western area of Iroquois pottery forms,^{8a} but although the present writer agrees with him in the matter of his actual criteria, their views do not wholly coincide on the subject of distribution.

Another feature which has hitherto received scant attention is the factor of chronology. Thus, although an examination of prehistoric Iroquois artifacts shows that these people once possessed a somewhat homogeneous culture, as time went on this culture was modified among the western tribes, which, though retaining suggestions of the old handicrafts here and there, ultimately developed a distinctive art of their own. This, though varying locally, stands as a unit as opposed to that of the eastern Iroquois, who long clung to their ancient customs.

Still later, in the historic period, when the Five Nations of New York augmented their numbers by bands of Huron, Erie, and Neutral, whom they settled *en masse*

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in their territory, these people evidently brought with them the characteristic fictile ware of the western group, which began to spread eastward, even to the territory of the Onondaga, where eastern Iroquois culture had formerly reached its climax; so that artifacts obtained on historic sites of that nation can scarcely be reconciled with the prehistoric objects of the same people. In this instance identification has been made largely through historic records, and the disappearance of the local types of artifacts through the substitution of extraneous objects, or at least of objects made according to extraneous ideas, checks with colonial accounts of the incorporation of aliens by the Five Nations. In some cases, sites which existed before the influx endured for some time after, and archeological evidence has been found to link the earlier and the later influences at work on the handicraft of the inhabitants.^{8b} In passing, it may be observed that on some sites of the historic period, objects entirely foreign to any form of Iroquois culture are found—for example, notched flint arrowheads and grooved axes.

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	<p data-bbox="308 277 915 393">It is necessary only to remember that tribes of the Algonkian stock and culture were also forcibly colonized by the Five Nations.</p> <p data-bbox="446 417 778 447">THE GREAT GROUPS</p> <p data-bbox="324 467 899 525">(1) THE EASTERN OR MOHAWK-ONONDAGA GROUP</p> <p data-bbox="304 546 915 852">The eastern or Mohawk-Onondaga center includes the St Lawrence basin from Montreal southwestward through western Vermont to New York, including St Lawrence and Jefferson counties, thence to the valley of the Mohawk, and from there westward, including Oneida, Madison, and Onondaga counties.</p> <p data-bbox="304 860 915 1290">The area covers the territories, prehistoric and historic, of the Mohawk, Oneida, and Onondaga. Various slight tribal differences in culture will be found to exist. For example, Mohawk artifacts, on the whole, are less varied than those of their congeners, while on the other hand, in prehistoric times the Onondaga developed a high technic in pipe and pottery making, which stands unsurpassed for free play of esthetic fancy, even among the Iroquois,</p>
	I N D I A N N O T E S

their art reaching its climax, so far as known, at the village of Hochelaga, discovered by Cartier in 1534, and now covered by the city of Montreal.⁹

Taking the Onondaga as the type people, the two features of their prehistoric archeology which strike the observer most forcibly are the well-made earthen pipes and vessels which abound in the ash-beds of their villages.

In the case of the pipes, the fancy of the maker was scarcely restrained by convention, and fairly ran riot in effigy forms modeled in the round, including animals—the bear, fox, tortoise, fish, crawfish, frog, snake, and various birds; human faces and entire figures; complexes of birds and human figures, men in canoes, and mythological characters, with a number of truly conventional forms such as the ordinary bent trumpet, square-topped or coronet, and various odd geometric types, a small series of which may be seen in the collections of the Museum of the American Indian, Heye Foundation. These will be described in another part of this paper.

While less freedom of expression is found in ancient Onondaga pottery than in the pipes, a variety of forms is to be noted with a wider range of decoration than is

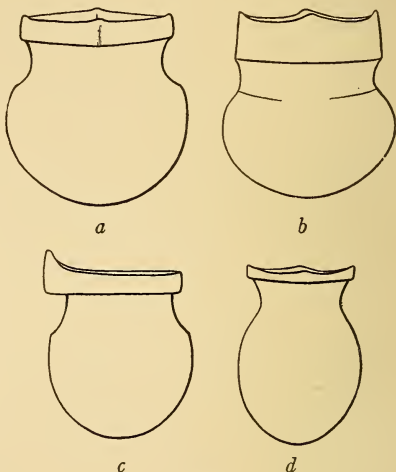
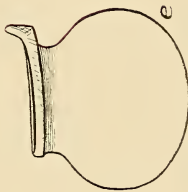
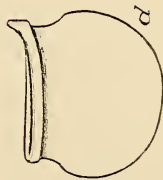
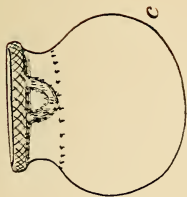
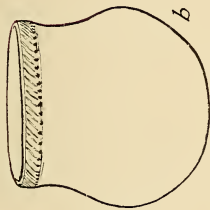
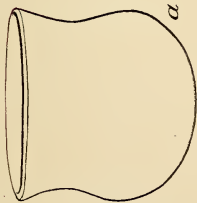


FIG. 1.—Onondaga pot forms from Jefferson county.

usual elsewhere (fig. 1). In shape, the Onondaga jars seem to have been conventionalized to a high degree, the constricted neck, overhanging collar, and



NEUTRAL POT FORMS



angular or peaked rim, being often highly exaggerated. The pitcher form (fig. 1, *c*), with the protruding lip carried to an extreme length, is not infrequent.

Decoration is generally confined to the heavy collar, and is both incised and impressed with a cord-wrapped stick; but examples with parallel bands of lines or with dots, adorning the shoulders where the neck meets the swell of the body of the jar, are not infrequent. In some cases, notably with the pitcher forms, the ornamentation is spread over the neck and the entire upper half of the jar.

Conventional human faces, composed of dots or of circles grouped to represent eyes and mouth, sometimes enclosed within incised diamond figures, often adorn the angles of the rim or occur under the raised peaks. In some cases these faces appear as realistic heads, modeled separately and luted to the jar before firing. In color both vessels and pipes generally vary from light-brown to rosy pink, sometimes mottled with black.

Among the Mohawk and the Oneida many of the same styles are found, but with less variety. As one goes westward, suggestions of the same types reach even to the Seneca, in whose territory, on prehistoric sites, there are found fragments of vessels which resemble, except in their weaker development of neck, collar, and ornament, the ware of the early Onondaga. This resemblance becomes less and less striking as the sites near and pass the period of European contact, when a new style of ware intrudes, bearing relationship to that of the Erie and the Neutral, which will be described more fully under its appropriate head. This ware (and the same is true of certain type of pipes) seems to have passed gradually eastward until it appears even on later sites of the Onondaga themselves, artifacts from the Onondaga villages and cemeteries of the colonial period on the Finger lakes being difficult to reconcile with specimens from the Rutland hills and Hochelaga.

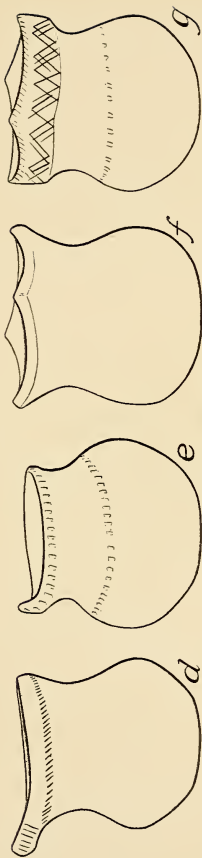
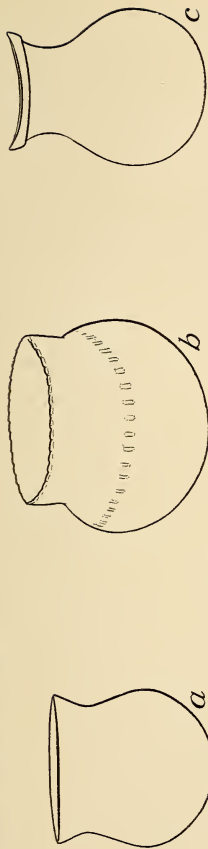
Early Onondaga stonework is almost negligible, being confined to a few excellent steatite pipes and beads, some celts, mul-

lers, hammerstones, mortars, flint scrapers, a few chipped flints, triangular arrows, and some rare gorget-like pendants. However, it may be said of the pipes, that both stemmed forms, not dissimilar to some of the clay types, and bowls designed for the reception of a reed mouthpiece, occur. Of the latter, two striking types have been noted, one (fig. 50) of an animal of nondescript appearance, the other of a panther or other creature shown climbing on its own tail, like those found in Canada and figured by Laidlaw.¹⁰ One of these pipes is in the H. J. Oatman collection in Watertown, New York.

In bone and antler the Onondaga displayed true Iroquoian facility of workmanship, and quantities of excellent polished awls, bodkins, needles, fishhooks, harpoons, simple three- or four-toothed combs, gorgets of human skull, rubbed and perforated phalanges of deer, beads, tubes, arrowpoints, spatulæ, pottery tools, effigies, and miscellaneous objects litter their ash-beds.

In shell they made a few beads and uni-valve knives or scrapers. In native copper

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	<p>two cylindrical beads, probably without parallel, have come to the writer's attention.</p> <p>Supplementary to this brief summary, a description of the material found on a typical prehistoric Onondaga site and its environs in Jefferson county, New York, will be given elsewhere in this paper.</p> <p>(2) THE WESTERN GROUP</p> <p>The western Iroquois covered a vast expanse of territory, ranging from the Finger lakes in the east to Georgian bay on Lake Huron in the west, southward along Lake Erie, across western Pennsylvania into Ohio, and down the valley of the Susquehanna and its branches from the New York state line to Chesapeake bay. Naturally in so great a range, local culture developments are to be expected, and these we may class under certain subdivisions, as follows:</p> <p>(A) THE CENTRAL IROQUOIS.—The Neutral-Seneca-Cayuga group includes the Niagara peninsula in Ontario, and extends eastward across the river to the Finger lakes of western New York. On the south, along the shores of Lake Erie, it crosses western</p>
	I N D I A N N O T E S



ERIE POT FORMS

(From specimens in the Museum of the American Indian, Heye Foundation, and the New York State Museum)

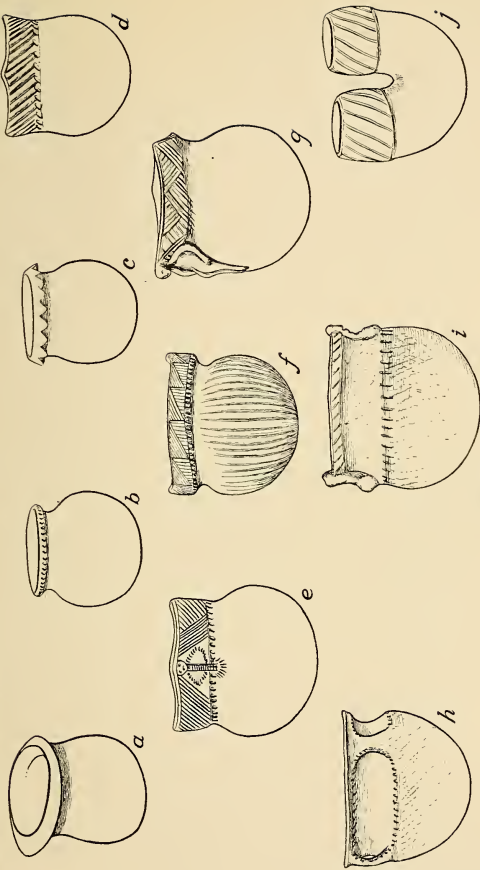


Pennsylvania into Ohio. The area was once inhabited by the Cayuga, Seneca, Erie, Neutral, and other minor tribes of the same stock. The southern and western people of this subdivision differ somewhat from the eastern Seneca and the Cayuga, but not enough to warrant placing them on a plane with the remaining subdivisions. Outlines of the forms of pottery jars used by these people are shown in pl. I-III.

(B) THE SUSQUEHANNA IROQUOIS.—The habitat of this group includes the region comprised by the valley of the river from which its name is derived, the ancient ground of the little-known group led by the Andaste, Susquehannock, or Conestoga, as they were variously called, if indeed the names are really synonymous. The archeology of these people shows them to have been closely related to the Erie and the Neutrals. The known pottery jar forms of this group are shown in pl. IV.

Possibly the still more southerly Tuscarora and their kindred may some day be added to the list, as Iroquois in culture as well as in language. That such may well be

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	<p>the case is suggested by the discoveries made by Moorehead¹¹ in one of their cemeteries near Romney, West Virginia.</p> <p>(C) THE WESTERN OR HURON-TOBACCO-NATION IROQUOIS.—Owing to lack of intensive study of the archeology of the region formerly inhabited by the Huron confederacy and the Tobacco Nation, comprising the area in Ontario west of the Niagara peninsula, north of Detroit river, east of Lake Huron, and finding its northern limits somewhere above Lake Simcoe, it is not yet possible to define clearly the culture of these people. It may be that future research will bring to light sufficient data to warrant the division of the region into a number of centers, or it may eventually be merged with the Neutral and the Seneca. At present, however, such indications as we have seem to point to an ultimate division rather than to combination.</p> <p>The artifacts used by the western Iroquois tribes are Pan-Iroquoian in character, and, as usual, the greatest variations from the eastern group are found in their fictile ware. As the various subdivisions of the western</p>
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SENECA POT FORMS

(From specimens in the New York State Museum, the American Museum of Natural History, and the Museum of the American Indian, Heye Foundation)



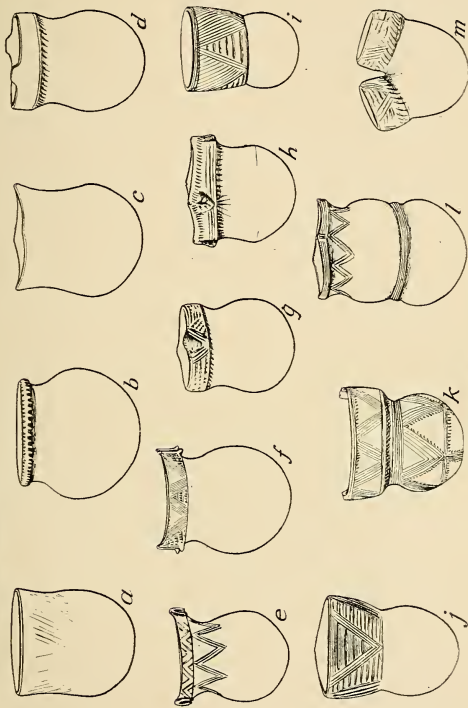
group will be treated individually hereafter, it will suffice to say for the present that in general the pottery vessels are of darker ware than that of the eastern peoples, and are squat and globular, with a beaded or crinolated rim, or slight collar, and little or no neck. In some instances, especially on older sites, pitcher forms and angular-mouthed jars with pronounced collars, sometimes ornamented with human faces, occur, linking the ware of the district with that of the Mohawk-Onondaga. These types, however, become scarcer after the dawn of the historic period, and the vessels partake more of the character of the globular type above mentioned.

Greater conventionalization is noticed among the pipes of this region than farther to the east, certain forms predominating, especially those with line-and-dot ornament, and coronet or square-topped bowls. The former are specifically noted by Parker as typical of the western Iroquois. However, effigies representing heads of animals and of human beings, entire mammals, fish, birds, and serpents, with the bowl orifice in the

back or formed by the open jaws, and deformed crouching images supposed to represent members of the False-face society in the act of blowing ashes, appear. These are usually in dark clay, sometimes black, and so highly polished as to give the appearance of glaze.

While some of the same concepts are to be seen in ancient pipes of the eastern area, the technic and style, as well as the color and finish, are quite different. It is these varieties in pipes and pottery that we find penetrating eastward to later historic sites, as we have stated above, to the gradual exclusion of the original forms.

As a concrete example, in the private collection of Mr C. P. Oatman, of Liverpool, New York, is a large series of typical pipes from prehistoric Onondaga sites in Jefferson county, and another series taken from graves at an Onondaga site near Syracuse, where Jesuit devices and trade articles abound. The latter group of specimens include pipes with line and dot decoration, a bird-effigy pipe of western Iroquois style, and a blowing false-face, all of the dark



ANDASTE POT FORMS



WESTERN GROUP	35
<p>ware, and of the same form and technic as are associated with like artifacts from the country of the Seneca, Neutrals, and Huron of the Niagara frontier and westward.</p> <p>Again, the pipe fragments obtained by the writer on prehistoric Cayuga sites are of the red ware and trumpet or coronet designs similar to those from Jefferson county, as indeed are some from Cayuga sites of the Jesuit period. But on the later sites dark pipes of western technic, even of the polished black variety, predominate.</p> <p>As to the great problem of the origin of the Iroquois, the writer does not think it possible to add any light at present to that afforded by Parker in his able discussion. It must first be determined whether the eastern or the western group is the older, and whether it is not possible that the two groups may not have been separated for a long time before they again came in contact. Moreover, during this possible separation they may have had very diverse history, vicissitudes, and migrations. The widespread occurrence of certain features of the</p>	
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	<p>culture of the eastern group, as elsewhere brought out in this paper, may perhaps argue for the relative antiquity of that body, but until we have more detailed data from adjacent areas, the beginnings of the Iroquois must remain obscured.</p>
	INDIAN NOTES

II.—NOTES ON CAYUGA ARCHEOLOGY

INTRODUCTION



CENTRAL New York state has so long been settled and cultivated that most of the archeological sites have come to the attention of local farmers. The result has been that, for a century or more, objects of Indian manufacture have been gathered from plowed fields, and carried off and scattered broadcast. Cayuga county is no exception to this rule, and owing to the activities of one or more commercial collectors who sought out and looted the burial-grounds of both Algonkians and Iroquois in the hope of obtaining salable curiosities, most of its sites have been more greatly despoiled than those of neighboring counties. In the late seventies raids on the historic Cayuga cemeteries in particular began, and in the following decade large quantities of relics, considering

AND MONOGRAPHS

the relatively small Cayuga population of the region, were exhumed and sold to collectors throughout the United States and even in Europe. The result has been that, while much archeological material has been recorded, and individual specimens have been figured and described, with the exception of the objects now in the Museum of the American Indian, Heye Foundation, no representative collection of Cayuga Iroquois culture is known. The objects illustrated in this article represent, probably as fully as is now possible, the archeological history of this relatively little known Iroquois people, and show them to belong to the western, as opposed to the eastern, Iroquois group.

Much confusion has existed concerning the identification of Indian sites in Cayuga county. Algonkian and Iroquois alike have been muddled hopelessly by incompetent observers, and to sites of the Jesuit mission period have been given the names of Indian towns destroyed by General Sullivan in his campaign against the Iroquois in 1789, a hundred years or more later.

Prehistoric Algonkian hamlets have been improperly classed as Jesuit stations, and noted as such in the literature of the county and the state with unjustified confidence. It is not the purpose of this paper to enter deeply into a historical discussion of this nature, but it is hoped that some discriminating historian versed in the rudiments of archeology will some day visit the aboriginal sites of Cayuga county and reclassify them according to the criteria furnished by the remains occurring thereon.

The difficulties of the task involved in research among the Iroquois remains in Cayuga county were dissipated to a great extent by the assistance of a number of public-spirited citizens of the district, who gave specimens, and even placed their farms, their automobiles, and their valuable time at the disposal of the Museum's party. Especial thanks are due Mr William H. Young, of Union Springs; Mr Ernest J. Young, of Venice Center; Miss Isabel Howland, of Sherwood; Dr F. C. Smith, of Fleming; Mr Benjamin Watkins, of Scipioville; Mr Edward Richardson, of

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	<p data-bbox="277 248 914 325">Union Springs, Mr George Myers and Mr Hugh Cadzow of Auburn.</p> <p data-bbox="277 332 914 493">Mr Donald A. Cadzow of the Museum, and Mr Ralph Theurer of Auburn, served in the capacity of field assistants throughout the work.</p> <p data-bbox="308 524 883 594">PREHISTORIC IROQUOIS SITES IN CAYUGA COUNTY</p> <p data-bbox="277 624 914 991">During the summers of 1915, 1916, and 1919, the writer made three field trips to Cayuga county in behalf of the Museum of the American Indian, Heye Foundation, for the purpose of examining and exploring the Indian sites still to be traced in that region. His observations soon made it apparent that at least two cultures were represented, as follows:</p> <p data-bbox="277 997 914 1327">(1) The culture of a prehistoric Algonkian people, determined by comparing the artifacts found in their village and burial sites with those of other areas known to have been occupied by people of that stock alone. This Algonkian population of Cayuga county, it was found, were the makers of the polished slate gorgets, banner-</p>
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stones, platform pipes, notched arrowpoints and spearheads, gouges, long pestles, and a host of other articles unknown to, or at least not used by, their Iroquois successors, who in turn were more adept at work in clay, bone, and antler. The subject of the Algonkian occupancy of Cayuga county is more fully treated in vol. II, nos. 1 and 2, of this series of *Indian Notes and Monographs*.

(2) The next comers here were an Iroquois people, doubtless the Cayuga of history, who occupied the county from pre-historic to late colonial times, not relinquishing their homes until long after the arrival of Caucasians. As no Algonkians were found in Cayuga county by the first white settlers, and as their sites greatly outnumber those of the Iroquois, it seems probable that Algonkian people were resident in the district long before the arrival of the Cayuga; moreover, since no objects of historic provenience have been found associated with Algonkian remains, it seems further likely that the first Cayuga arrivals soon drove the Algonkians from their old

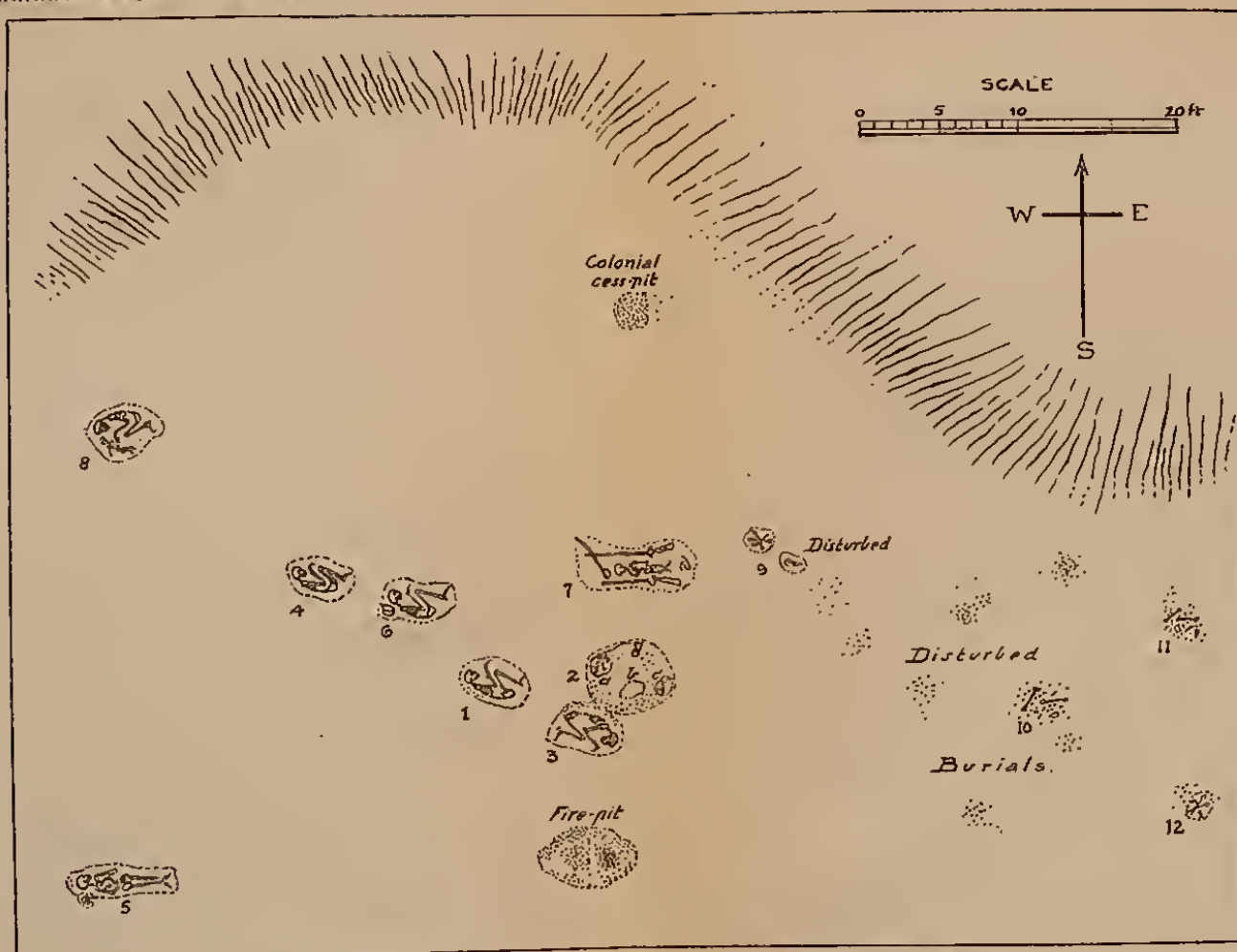
established seats and seized the territory for themselves. There is, however, a Seneca tradition, according to Mr A. C. Parker, State Archeologist, that the Cayuga are but a recent offshoot from the Seneca, who came into their historic territory in recent times, after it had been abandoned by the Seneca pioneers.

The prehistoric sites examined by the writer include a typical stockaded fort at Locke; another on the Great Gully in Ledyard near Scipio, scarcely half a mile from the historic site on the Young farm; a third at Aurora; and a fourth, probably an unfortified site, on Parker's pond in Cato.

Of these sites, that at Locke is the largest and was occupied for a longer period, although in neither respect does it compare with many of the hilltop forts in the Rutland hills in Jefferson county. It covers an area of two or three acres on a point of the tableland half a mile west of the village of Locke, and overlooks the Owasco lake inlet. Two streams join here, and the Indians dwelt on the angle formed by their junction, the steep banks on two converging







MAP OF CEMETERY 1, AT BIG GULLY, YOUNG'S FARM, SCIPIO



sides making a natural fortification of the place. The arms of the acute angle along the brinks of the gullies were easily rendered redoubtable by a log stockade, the holes where the logs were set still being visible in rows, sometimes double, in the unplowed forest land.

Deep pits, not yet entirely filled, probably corn caches, perhaps to the number of a hundred, may be seen within the limits of the old enclosure. The artifacts are found on the slope of the hills and on the flat top, in ash-beds, some of which reach a depth of a foot or more. From the ashes the writer has taken a square-topped "coronet" pipe of terracotta, lacking only the mouthpiece; many fragments of pipe-stems; sherds from numerous pottery jars, closely resembling those of the Iroquois ash-beds in Jefferson county, though with occasional leaning toward western (Seneca, Erie, Neutral) ware (pl. xiv). Among the articles found at Locke were bone awls (pl. viii), a bone fish-hook (fig. 3, *a*), jinglers of hollowed deer phalanges, a fragment of a polished and perforated box-turtle shell (fig. 4), a carved

antler knife handle (fig. 9), triangular flint arrowpoints, leaf-shaped knives of the same material, net-sinkers, celts, diminutive celts used perhaps as pottery graters, celts degraded for use as hammers, and rubbing stones, all of which specimens are characteristic of Iroquois sites, even to the historic period.

At the Great Gully fort, conditions are similar. The site is at the angle of the two gullies, and was stockaded, as is shown by a line of post-holes still to be found in the woods. Pits abound, but there seem to be no ash-beds. A few sherds of archaic Iroquois pottery, in which the angular collar with its notched edge is scarcely developed, were gathered. The occupancy here was brief, if indeed it was ever more than a place of refuge in time of war. Local residents speak of the finding of the remains of a keg of gunpowder and a brass kettle on this spot. As the great site on the Young farm, dating from the Jesuit period, is so near, this is not surprising. In Squier's *Antiquities of the State of New York*¹² is the following account of this fort, with an excellent diagram

(pl. XIII, 3) entitled, "Ancient Work of the Cayugas, Ledyard Township, Cayuga County, New York."

"This work is found about twelve miles southwest of Auburn, in the town of Ledyard, Cayuga county. It forms a good illustration of the character of the aboriginal defences. It is situated upon a high point of ground, formed by the junction of two immense ravines, which here sink some hundreds of feet below the tablelands. A narrow spur, hardly wide enough to permit two to walk abreast, extends down to the bottom of the ravines, starting from the extreme point of the headland. It is still called the 'Indian Path,' and affords a practicable descent to the water. At every other point the banks are almost, if not entirely inaccessible. At some distance inward, extending from the bank of one ravine to the other, was originally a line of palisades. The holes left by their decay are still distinct, each about eight inches in diameter. The position is eminently a strong one, and, under the system of attack practiced by the Indians, must have been impregnable. Within the inclosure are to be found *caches* and other features common to the class of works previously described, and with which this work entirely coincides, except that the embankment is wanting."

At Aurora another high point was chosen, situated between the converging

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	<p>gorges formed by brooks. Here are few pits, no traces of a stockade, but many ash-beds a few inches in depth. From these the writer procured clay pipe-stems, beads made from natural concretions, triangular flint arrowheads, leaf-shaped stone knives, archaic Iroquois potsherds, hammerstones, net-sinkers, round worn mullers or grinders not unlike the flat-sided type of discoidals known in the South, and a few bone awls. A piece of a small terracotta effigy of some animal (fig. 11) also was found. This site, in common with the two forts at Locke and Great Gully, is of purely Iroquois type, the Algonkian peoples preferring to dwell on the lowlands, except on rare occasions, and then leaving the flats only under Iroquois influence or compulsion.</p> <p>At Cato, on Parker's pond, or, as it is now known, Forest lake, a site was discovered on a low sandy knoll in the woods. Its finder, Mr Cramer of Auburn, together with the writer and Mr Cadzow, his assistant, spent several days in exploration here. Ash-beds and pits were found in which were</p>
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a few bone awls, clay pipe-stems, archaic and later Iroquois pottery, many net-sinkers (dozens being found *en cache*), and a jingler made from a phalangeal bone of a deer. From the bottom of some ash-beds Algonkian sherds and a single notched point were recovered.

An interesting feature of this lowland site is that, not more than 150 yards away, is a site which, from the nature of its artifacts, is certainly attributable to the Algonkians. Here occurs a low mound, possibly artificial, of sand mixed with black earth and midden débris, in which Mr Cramer found a clay pipe resembling the soapstone platform variety, two skeletons without accompaniments, notched stone arrowpoints, and fragments of steatite vessels. The writer secured also a two-holed slate gorget, sherds of Algonkian pottery, and stemmed and notched flint arrows at the same spot. Every specimen mentioned in this brief list is of a type wholly foreign to the articles found on known sites of the Iroquois, including that in the near-by woods.

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	<p data-bbox="317 253 889 287">EARLY HISTORIC CAYUGA SITES</p> <p data-bbox="285 304 923 841">Situating on the top of the high plateau between Lakes Owasco and Cayuga are a number of Cayuga Iroquois sites which may be referred not only to the early colonial period, but to the time of the Jesuit missions, since at all of them quantities of trade and religious articles of European origin occur. The objects definitely attributable to the Jesuits are bronze rings (fig. 31) with the sacred heart, figures of saints or of the Virgin, and inscriptions such as I.H.S., I.X.X.I., and V.M., together with crucifixes and the like.</p> <p data-bbox="285 850 923 1345">Other village remains of a still later date, namely, the sites of the Cayuga towns destroyed by the American Revolutionary General Sullivan, no doubt occur; but the Cayuga in 1789, according to the journals of Sullivan's officers, were dwelling for the greater part in log houses patterned after those of the whites, and using almost entirely utensils procured from Europeans, so that their traces are more difficult to segregate from those of the early white settlers. Indeed, while present-day local tradition</p>
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makes nearly every Indian site, of whatever culture or period, the remains of a town burned by Sullivan's army, very few such are definitely located. There is one near Oakwood, between Union Springs and Auburn, and possibly the village-site on the northern side of the mouth of Great Gully brook, generally considered a Jesuit station, may belong in this category. A few beads and pipes seem to be all the objects of Indian manufacture that may be found on sites of this period.

Beginning in the town of Fleming, on Fleming creek, there is an Indian site described by Beauchamp¹³ as a "cemetery of half an acre on lot 89, west of Fleming Village. Modern relics." This site has been largely looted by commercial collectors, and nothing is now visible. It was probably a Jesuit mission.

About two miles southwest of Fleming, on the present Mead farm, is a site which has long been ransacked by local and commercial diggers. In his work last cited, Beauchamp says: "East Cayuga, or Old Town, was a quarter of a mile west of Mapleton,

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	<p>on lot 95, Fleming. Area, 10 or 12 acres east of the creek. The relics are recent." Clark notes that, "East Cayuga, or Old Town, contained 13 houses, in the southwest corner of the town of Springport as indicated on the map from three to four miles from the lake. A site in the southwest corner of Fleming was a site of this town at about this time," which was 1779.</p> <p>The actual age of this Cayuga village far antedates the "Old Town" of 1779, for in the graveyard and in outlying isolated graves were found quantities of Jesuit relics. Mr W. W. Adams, who at the present writing is still living at an advanced age at Union Springs, New York, conducted much digging in Cayuga county, and probably opened more graves and dug into more sites than any other collector. As his excavations were made for commercial purposes, the objects found have been sold and scattered. On this site some of Adams' greatest finds were made. He assured the writer that, on May 2, 1888, he took from one grave here the following articles:</p>
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1 brass kettle	21 native made gun-
17 flints	flints
2 gunflints	3 bars of lead
6 bullets	5 rubbing stones
6 long shell beads	16 canine teeth of bear
1 bone harpoon	2 axes
3 antler handles	2 pairs of shears
1 knife with an ant-	4 pairs of bullet-molds
ler handle	2 gunlocks, with flints
2 large shears	32 knives and edged tools
1 gun	1 pipe
1 piece of black	1 piece of mica
paint	1 wormer
2 trigger guards	1 steel and two flints
1 gun cleaner	2 melting ladles
a quantity of	2500 wampum beads
gunpowder	a quantity of Jesuit rings

Dr F. C. Smith, of Fleming, kindly presented the Museum with the bowl of a bear-effigy pipe of highly polished black clay (fig. 19, *b*), an iron axe, and some other objects dug by himself from this spot. Miss Isabel Howland also presented some Jesuit rings and a beautiful bone comb (fig. 8), found on the Mead farm by Adams.

The writer obtained clay pipe fragments and glass beads from the ash-beds along the creek, also arrowpoints of brass. It is needless to repeat that the identification of this village with the Upper Cayuga or Old

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	<p>Town destroyed by Sullivan's army is erroneous.</p> <p>Approximately three miles southwest of this site lies the Jesuit mission village explored by the writer and Mr Cadzow, on the south bank of Great Gully, which will be described later in detail.</p> <p>Possibly these three sites correspond with the three Cayuga non-palisaded villages visited by Wentworth Greenhalgh in 1677.¹⁴</p> <p>About two miles farther south, in the village of Scipioville (lot 26, Scipio), is another Jesuit station, remarkable for the religious articles and the profusion of red shale or catlinite beads and pendants which it has revealed. Here again Adams found many artifacts, including several pipes of native origin. If the writer is not mistaken, one of these was the often-illustrated raven pipe which subsequently found its way into the Douglas collection now in the American Museum of Natural History. Mr Benjamin Watkins, who formerly lived on this site, presented to the Museum of the American Indian, Heye Foundation, quantities of beads, a stone carving of a human</p>
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face, and several clay pipe-bowls (figs. 17, *b*, 18, *a*, 23, *a*); he also spoke of finding a bone comb in a grave here, which was carved to represent two bears, squatted on their haunches, facing each other. Local farmers have effigy pipes, crucifixes, Jesuit rings, medals, beads, axes and brass kettles.

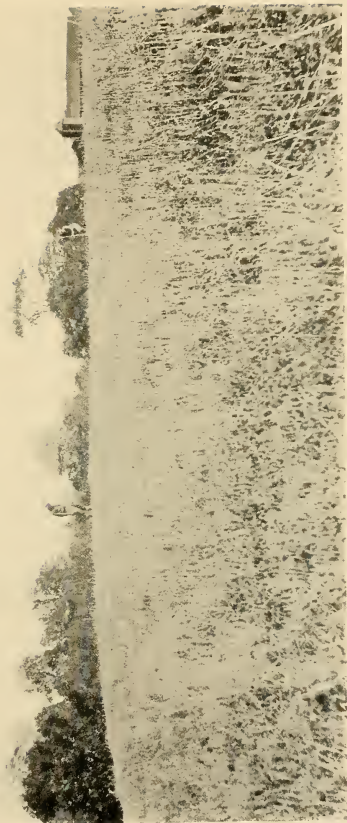
Five or six miles southeast is a site on Big Salmon creek, in Venice Center, where Jesuit relics have been found. Here the writer and his party spent several days in digging, in company with Mr Adams and alone, in 1916 and 1919, but only disturbed burials with a few beads and metal objects were found. In Mr Adams' note-book, which he kindly lent to the writer, he says that he found in graves in the sand bluff east of the creek, Jesuit rings and polychrome Venetian beads, brass kettles (one over the skull of a skeleton), guns, pipes, and an earthenware jar placed upright in a brass kettle. This may be the small jar shown in pl. x.

One long, red-glass bead, and several wampum and discoid shell beads, an iron knife and kettle fragments, were all that

were found by the writer. A fine clay trumpet pipe (fig. 12) in our collection is catalogued as coming from Venice Center—probably this very site.

In Genoa two similar Jesuit sites are found, but were not very carefully examined by our party, as they too had been looted.

It is interesting to note the relative paucity of aboriginal articles of the Jesuit period in Cayuga graves, in comparison with those of the contemporary Seneca. Pipes are scarce, and earthenware vessels even scarcer—in all his work, Mr Adams encountered only two: one at Scipioville, the other, as mentioned, at Venice Center, July 20, 1886. So far as the writer is aware, few stone-age cemeteries of the Cayuga are known, and none positively traceable to any of the stone-age sites herein described. Historically it is well known that large bodies of Andaste from the Susquehanna were colonized by the Cayuga, whole villages, perhaps, being made up of colonists from this outlying Iroquoian tribe. The entire vessel shown in pl. x



CEMETERY 1, BIG GULLY, LOOKING EAST



closely resembles some of the Andaste jars found at Athens, Pa., by the writer in 1916, and may have been made by that people. A detailed comparison of Andaste and Cayuga artifacts may shed light on the origin of the latter.

The chief value of the excavation and examination of Indian village and burial sites of the historic period lies in just such comparative work as this. Had the Cayuga cemeteries devastated by vandals been examined by competent observers, a mass of data bearing on the customs, religion, and history of the tribe might have been gathered, which, by comparison with like material from other areas, would have afforded means of determining the position of the Cayuga in history and archeology.

THE GREAT GULLY SITE

On lot 113, Ledyard, in the village of Scipio, lies the William H. Young farm, on the south bank of Great Gully. Protected from vandalism for many years, Mr Young permitted the Museum's party to excavate at will, and Mr E. J. Young, his

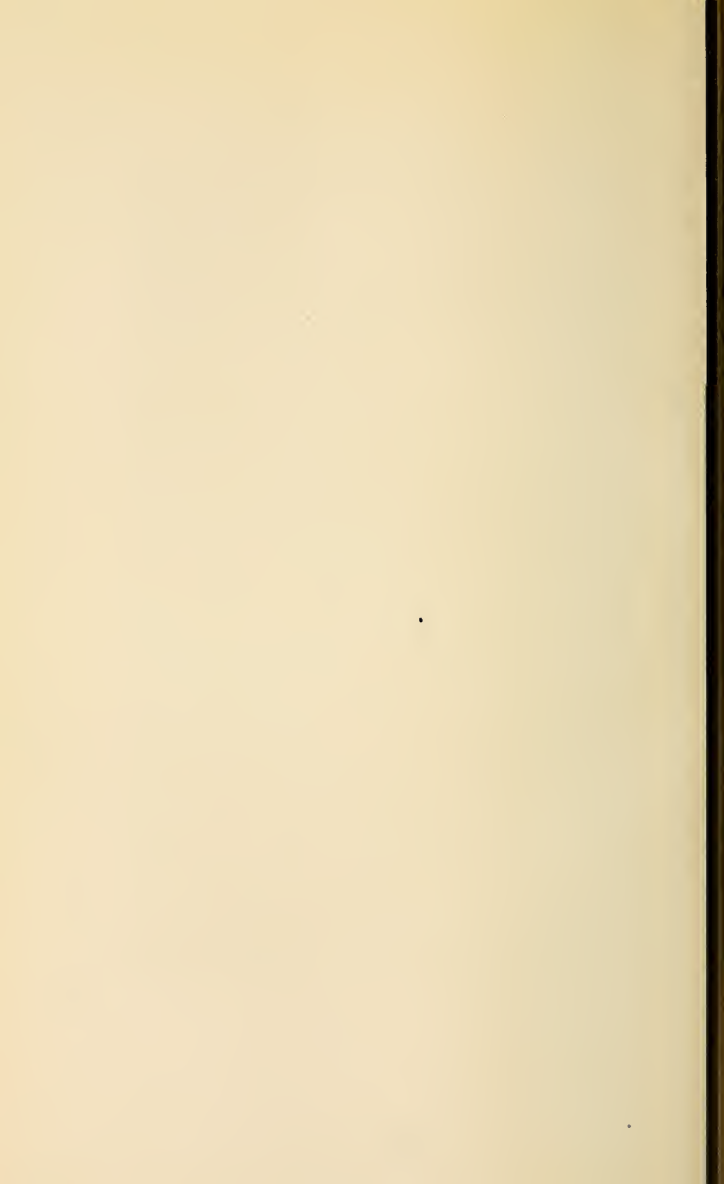
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	<p>brother, also manifested his public spirit by presenting specimens found years ago on the farm, and by active assistance in digging and exploration. To these two broad-minded, intelligent gentlemen the Museum owes much. Of this site Beauchamp says:</p> <p>“A site on lot 114 Ledyard is supposed to be Upper Cayuga. There are fireplaces and a few graves with European relics and many copper fish-hooks. General Clark speaks of Upper Cayuga, an Indian town of fourteen very large houses, near the north line of Ledyard . . . on the south bank of Great Gully brook and as appears on the map between one and two miles from the lake. The distance is greater.”¹⁵</p> <p>As a matter of fact, the distance from Lake Cayuga is three and a half or four miles, and, as will appear from the Jesuit rings found there, the site is an older one than has hitherto been conceded.</p> <p>The well-known prehistoric stockade was across a deep ravine joining Great Gully on the south, and only half a mile away. Scattered Algonkian notched flint knives and spears, and bits of steatite vessels proclaim an earlier, pre-Cayuga occupancy.</p>
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Three cemeteries are known to exist on the Great Gully site, although, from the relative scarcity of skeletons, others must be near by; yet the stiff clay soil is so difficult to dig that testing is well-nigh impossible. The first spot examined by the Museum's party, which will be called, for the purpose of identification, Cemetery 1 (pl. v-vii), is situated on a high lobate knoll overlooking Great Gully, about 150 yards west of Mr Young's barn. The soil is stiff, reddish clay, overlying sand, which in some instances approaches the surface. The location of the burials was ascertained through the accidental exposure of a skeleton by plowing some years ago, while subsequent digging, mostly clandestine, by local collectors, brought others to light. The skeleton first found had with it a brass kettle, a gun, and a native clay pipe. A Mr Giffords found another burial that was accompanied with a brass kettle, a pottery effigy pipe, a crucifix, some Jesuit rings, and a green blanket over the bones. How many others were located by diggers, or what their accompaniments were, can never be known,

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	<p>as no records were kept and the objects are lost.</p> <p>Two hundred yards or more to the eastward, on the brink of the ravine, Mr Young found Cemetery 2, which held seven burials, all flexed and without objects. One hundred feet north, near the family residence, Mr Young's father, while planting a row of posts, found a burial with many accompaniments. This was the first discovery in Cemetery 3, to which reference will be made later.</p> <p>A quarter of a mile east, in the Gully bottom, across the brook, the solitary skeleton of a child was found by a neighboring farmer. It had no accompaniments and tests here revealed nothing.</p> <p style="text-align: center;">THE CEMETERIES</p> <p>CEMETERY I: <i>Grave 1.</i>—This grave contained the flexed skeleton of a young man, on its left side, headed west, facing north, at a depth of 2 ft. 7 in. The bones were in poor condition, and the skeleton lacked the left arm, clavicle, and scapula. The left femur was detached, and was found upright</p>
	I N D I A N N O T E S



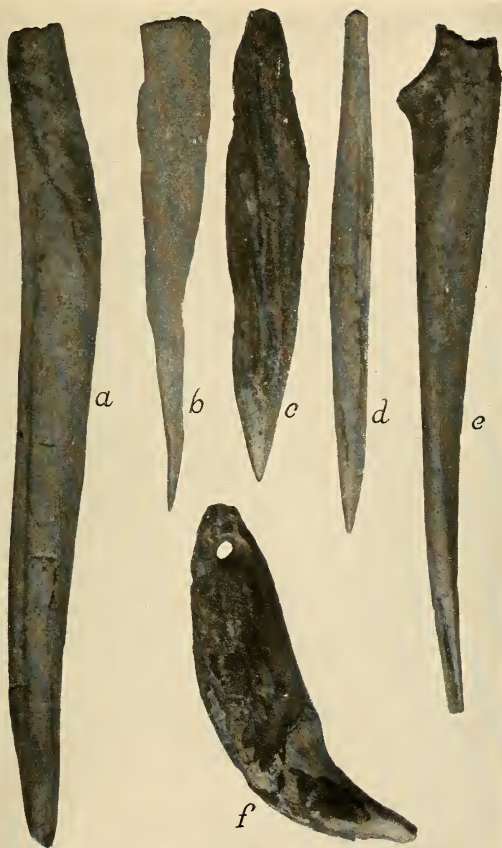
CEMETERY 1, BIG GULLY, LOOKING SOUTH



against the northeastern corner of the grave, at an angle of 45 degrees. The upper right arm lay parallel with the trunk; the lower arm was at a right angle with it. About six inches in front of the finger-bones was a deposit consisting of an iron bullet-mold of small caliber, part of a metal knife-blade, a piece of a native clay pipe of the Pan-Iroquois line-and-dot pattern, and four large and handsomely engraved bone tubes (fig. 7). The remains of a flat, narrow, wooden object, nearly six feet in length, probably a bow, lay under the body and extended from head to feet; six inches before the face was a small pile of round or barrel-shaped red-glass trade beads, with at least one tiny blue polychrome "star" bead. With these was a cylindrical fragment of brass, two or three inches long. Near the skull were two small sherds of native pottery, and scattered throughout the grave soil were scraps of brass kettle, flint chips, and bits of white and colored china.

Grave 2.—This grave, which was four feet east of grave 1, was 5 ft. 10 in. long, by 4

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	<p>ft. broad and 4 ft. deep. It contained bones scattered from surface to bottom, where there were three heaps of long-bones representing probably six individuals. The first of these bundles (<i>a</i>) was found in the north-west corner of the pit and contained two inferior maxillaries; at the opposite corner was a similar bundle (<i>b</i>), with one lower jaw; and in the third bundle (<i>c</i>), which lay in the center of the pit, were some infants' scapulæ from bodies not represented by other bones. All the bones were greatly decayed, and the skulls were fragmentary. With bundle <i>a</i>, in the northwestern corner, there were no objects; but bundle <i>c</i> contained part of a short and narrow wampum belt wrapped around some of the bones. On the southern side of the pit, close by, was an iron trade axe, set upright, blade down. Bundle <i>b</i>, in the southeastern corner, had a globular green-glass bead, some very tiny glass beads, and several long, triangular, and tubular beads of red stone, probably catlinite (fig. 24), some of which are notched and engraved.</p> <p><i>Grave 3.</i>—In troweling over the outer</p>
	I N D I A N N O T E S



BONE IMPLEMENTS FROM CAYUGA SITES

(Length of *a*, $5\frac{1}{4}$ in)



edges of grave 2, a black stain was encountered in the southwestern corner, which extended into grave 3. Here lay the remains of an old man, on the left side, headed east and facing south. The skeleton was tightly flexed, with arms folded and hands before the face. The bones were surrounded by a plentiful deposit of charcoal, and a few inches above the body were many burnt stones. A pocket containing about a dozen land-snail shells (*Helix* sp.) was above and near the head.

Grave 4.—This sepulcher likewise contained the skeleton of an old man, tightly flexed, on its left side, headed west and facing north. There were no objects in the grave, except a limestone boulder of about fifty pounds' weight, which lay upon the shoulders. The bones were decayed beyond recovery.

A deep firepit was found near grave 3. It was oval in shape, 6 ft. long, 3 ft. broad, and 4 ft. deep, and contained, besides charcoal, ashes, and burnt stones, a few plain potsherds and a bit of the bowl of a white-clay trade pipe.

Grave 5.—This grave, which was $4\frac{1}{2}$ ft. deep, held the skeleton of a woman, at length on its back, head to the west, facing over the left shoulder to the north. The right arm was folded across the abdomen, the other was folded with the hand under the chin. At the back of the head was a round hollow in the clay, 8 or 10 in. in diameter, which seemed to have contained a bundle of which the only remains consisted of a decayed black substance. At one side of this hollow was a beautiful carved bone back-comb (pl. ix), representing two panthers rampant, climbing on their own tails, and facing each other with tongues joined. Both flat surfaces of the comb are covered with finely etched designs. At the right knee of the skeleton was the upper end of a human femur that had been sawed off with a stone knife (fig. 5), and at the right foot was about a quart of bones and scales of fish. About two feet above the skeleton was an earthenware pipe bowl (fig. 17, *a*). The bones of this skeleton were in fair condition, so that it was possible to save the skull.

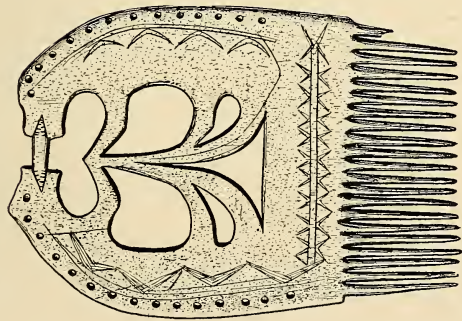
Grave 6.—At a depth of three feet was found the flexed skeleton of an aged woman lying on the left side, facing north. Back of the head was a brass kettle having a capacity of about a quart, in which were a few short deerskin thongs, some knotted. The kettle had rested on and been covered by bark, probably of elm, shreds of which were preserved by the metallic salts of the kettle. The bones of the skeleton had practically disappeared through decay.

Grave 7.—At a depth of $4\frac{1}{2}$ ft. was the skeleton of an infant less than a year old, extended on its back, headed west. The child was flanked by two flintlock guns, both pointed west, with flints affixed, and portions of the wooden attachments, as well as the brass ferules that had held the cleaning rods. At the top of the head, with the blade pointed northwestward, was a cutlass, probably French, with an antique basket hilt of rusted metal, to which had been attached a few round, black, glass beads. Near the waist were two long, cylindrical, shell beads, and about twelve inches away from the feet, at the eastern

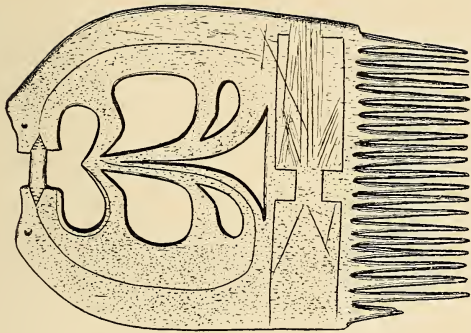
end of the grave, was a shell necklace (fig. 30) extending across the grave from north to south, composed of seven engraved shell runtees (fig. 29), each about the size of a half dollar, with long, tubular, shell beads at the ends (fig. 26).

Grave 8.—At a depth of only a foot, this grave contained the flexed body of a nearly toothless old woman, lying on the right side, headed west, facing north. Before her face were the delicate bones of a newborn babe, extended on its back, headed west. An iron knife with a bone or an antler handle lay beside the child. The bones of both bodies were crushed and decayed.

Grave 9.—This grave may have been looted by previous diggers. It held, at the depth of a foot, the disturbed skeleton of an aged person, probably a woman. The skull lay at one side, headed east. The lower jaw was eight inches away, toward the north-east; the other bones were two and a half feet away to the north, in a small pit. There were a few traces of vermilion paint.



a



b

BONE COMB WITH PANTHER DESIGN, OBVERSE AND REVERSE, FROM
BIG GULLY SITE, SCPIO

(Two-thirds actual size.)



Grave 10.—This was a looted grave containing a few bones stained with iron and brass.

Grave 11.—Like grave 10, this sepulcher had been previously opened and looted. There were traces of iron and copper, some small bits of a wooden spoon or bowl, a carved bone trinket (apparently a spiral point broken from some larger object), and, in the northwestern corner of the grave, the cast of a pottery jar in the stiff clay, of which one large decorated sherd remained (pl. XI, *b*). Other sherds scattered throughout the grave showed that the looter had been too careless or ignorant to remove the jar which he had discovered.

Grave 12.—A bundle burial composed of the bones of an aged person, found at a depth of eighteen inches. On a pile of long-bones were pieces of the skull, and the lower jaw, inverted. Beneath this was a pit, three feet deep, in which were several plain bone tubes, and near these a large piece of the bottom of a thick, colonial glass jar or bottle.

Disturbed Graves.—From this point sev-

eral previously dug disturbances were found. At least half a dozen other skeletons had evidently been dug up and their bones scattered. Traces of vermilion and green paint, copper- and brass-stained bones, bits of brass kettles, fragments of trade pipes of white clay, and china were uncovered.

A colonial cesspool, which may be attributed to a cluster of settlers' cabins and a grist-mill that stood here in the early years of the nineteenth century, was found. This was a cylindrical, stone-lined vault, and held a quantity of colonial relics, including an English halfpenny of 1804. Among the stones were found two Indian celts built into the vault. A fireplace containing a deep bed of red and white ashes was found about ten feet north of this; it held, among other things of European origin, a brass needle of Indian make, flat, centrally perforated, $5\frac{3}{4}$ in. in length (pl. XIX, *h*).

CEMETERY II: About forty years ago Mr Young's father found the skeleton of a Cayuga warrior in the garden, about 25

feet west of the southwestern corner of the house, and about 35 feet from the highway. Messrs William H. and Ernest J. Young, who located the spot and assisted the Museum's party in digging there, remembered that this skeleton was flexed, headed west, and was found at a depth of two and a half or three feet. Near the head of the skeleton, inverted, was a small copper or brass kettle, under which were some copper fishhooks (pl. XIX, *b*) and red paint. Also near the skull were two clay pipes, one (fig. 16) of the lined-bowl type, long and graceful; the other, which is still owned by Mr Ernest J. Young, who presented the first specimen to the Museum, is longer and more slender, with a delicately modeled human face, turned toward the smoker, beneath the lined bowl.

Some iron implements, gun-locks, hide-scrapers, etc., were also obtained, and, on relocating the grave, an iron hide-scraper was taken from the disturbed earth by our party. No beads were found.

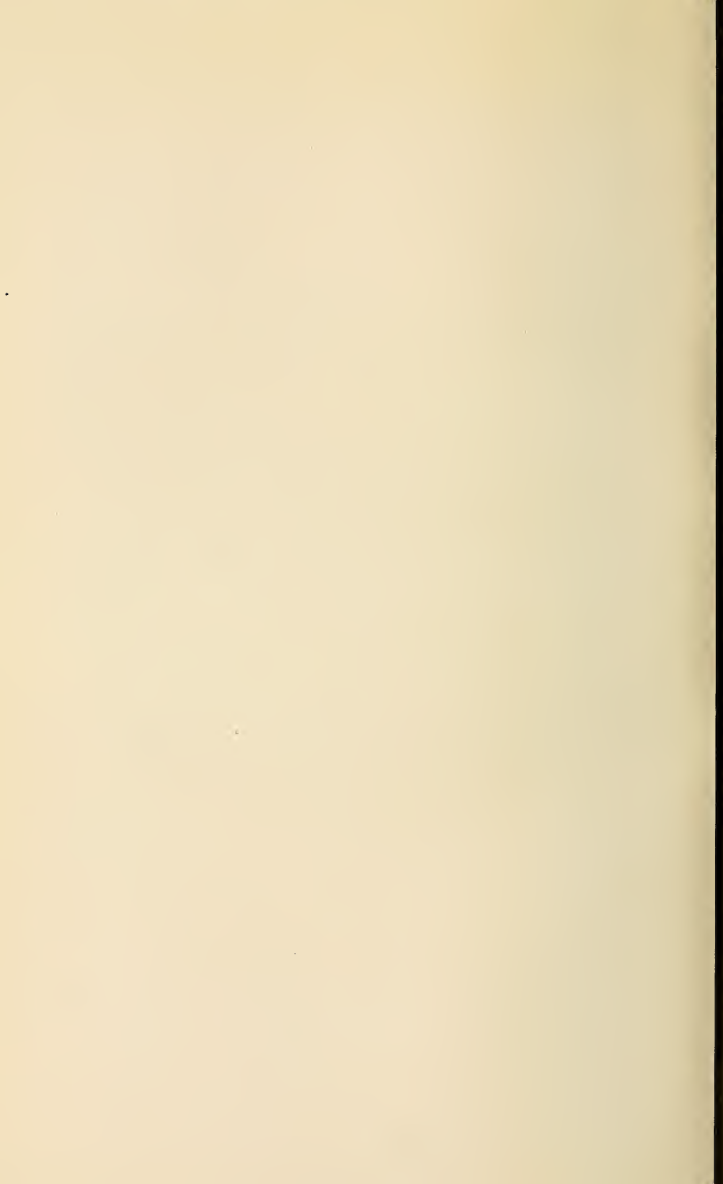
Assisted by Mr Ernest J. Young, the writer found a second grave about a yard

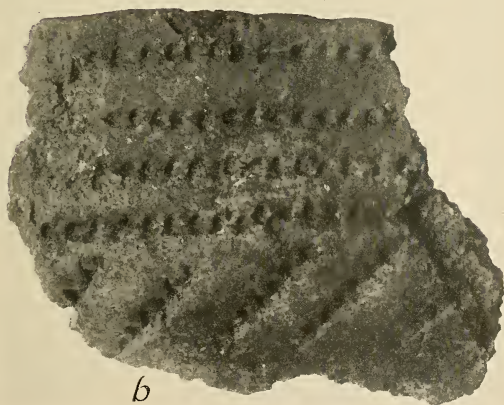
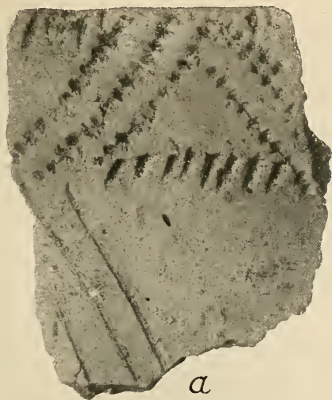
north of that last described. This held the flexed skeleton of an old person, on its back, probably a woman, headed west, facing north, with arms folded across the trunk. The bones, although greatly decayed, were still traceable. Over the left shoulder was a small brass kettle of about one quart capacity, in which were the moldering fragments of a wooden spoon with a broad bowl. Six inches above the skull was a piece of the bowl of an ornately decorated clay trumpet pipe (fig. 15), and a single tiny, round, green-glass bead lay among the bones.

The grass grows very green in the spring in a large circle around the spot where these graves were found, but persistent testing yielded no further remains. Those encountered were probably isolated burials. Mr Ernest J. Young has Jesuit rings, stone celts, small triangular flint arrows, glass and shell beads, pitted hammerstones, stone mullers or corn grinders, brass arrow-points and jinglers, and a small, well-carved stone mask, all of which were found on the surface or in graves at this site.



CAYUGA POTTERY JAR FROM VENICE CENTER
(Height, about 6 in.)





RIM SHERDS OF POTTERY JARS FROM CAYUGA COUNTY



ARTIFACTS FROM CAYUGA SITES

BONE OBJECTS

Bone was somewhat extensively used by the Cayuga, in both prehistoric and historic times, for the manufacture of a wide variety of implements and ornaments, yet, until after they had acquired metallic tools, this tribe did not develop any such skill in working either bone or antler as is shown by the artifacts found on the early Mohawk, Oneida, or Onondaga sites. In other words, early Cayuga bonework was little better than that of their rude Algonkian predecessors. With the possession of metal tools, however, bone carving took a decided impetus, and in historic graves very finely carved and etched articles of this material occur, equal or superior to the best work of any Iroquois people. Among the articles taken from Cayuga graves by Mr Adams and others, but which have disappeared, are bone or antler harpoons, and spoons, some of which are figured by Beauchamp.¹⁶ None were encountered by the writer during his explorations.

AND MONOGRAPHS

AWLS.—On most of the prehistoric sites examined by the writer, bone awls occurred, though in no great number. Several of these from the ash-beds of the fort at Locke are illustrated in pl. VIII, *a-e*. They vary in length, the largest (the sharpened tip of which is missing) being $5\frac{1}{4}$ in. long, the shortest $3\frac{1}{8}$ in. Most of these implements are made



FIG. 2.—Phalangeal bone of a deer, carved, from Locke. (Actual size.)

by sharpening small mammals bones, probably deer, although some are fabricated from sections cut from larger bones. They are of a type too well known to need further description. No bone awls from historic sites were seen, although it is probable that systematic excavation of the ash and refuse heaps would reveal

them. They are not to be expected in graves.

HOLLOWED PHALANGEAL BONES.—Hollowed phalangeal bones of deer, as is usual on Iroquois sites, are not uncommon. One

of these, cut open at the proximal end and perforated at the distal end, is shown in fig. 2. Deep notches are cut in the broad proximal part. It was one of a number found at Locke, and was either a jingling pendant or a unit of the ordinary cup-and-pin game. The writer has seen similar

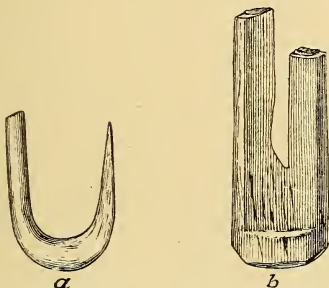


FIG. 3.—Fishhooks from Locke. (Actual size.)

specimens from widely separated parts of the Iroquois range.

CUT BEAR'S JAW.—On the same site the writer recovered the rear portion of the inferior maxillary of a black bear, which had been cut in two with a stone knife by the common process of sawing a deep girdle

around the bone and then breaking it. The use to which this specimen was put is doubtful.

FISHHOOKS.—A completed bone fishhook is represented in fig. 3, *a*, and another (*b*) in the process of making, both of which were taken from ash-beds at the Locke site. In the unfinished specimen a section has been sawed out of a dense but hollow bone, and the convex surface ground away, leaving the base and edges which, when the implement was completed, would have been freed from the intervening bone and the rough form of the fishhook thus made ready to polish and sharpen. The work was done with stone knives and scrapers, as the striæ show.

ORNAMENTS.—Fig. 4 exhibits the perforated rear portion of the plastron of a box-tortoise, found at Locke, probably a portion of a rattle used as an accompaniment to dancing, as among the Iroquois today.

An unusual specimen is shown in fig. 5, which represents the ball-end of a human femur, cut off apparently with a stone

knife, which was found at the right knee of the skeleton of the female in grave 5 of the cemetery on the William H. Young farm at Great Gully, near Scipio. A small

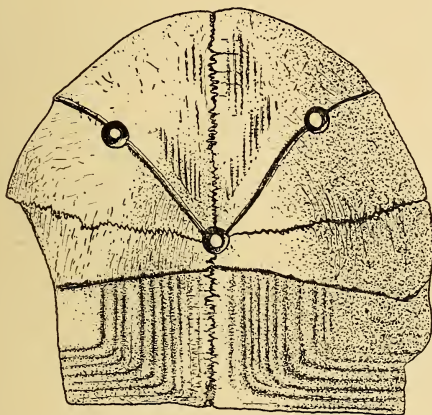


FIG. 4.—Perforated rear portion of the plastron of a box-tortoise from Locke. ($\frac{2}{3}$.)

hole on the rough surface suggests the beginning of a perforation. Beauchamp figures several perforated examples, mostly from Onondaga county,¹⁷ but gives no clue

as to their use. They were probably charms or trophies.

Pl. VIII, *f*, represents a pendant made from a perforated canine tooth of a black bear, found by Dr F. C. Smith of Fleming, who took it from a grave on the Mead farm near the village. The site is one of the Jesuit period. Perforated canine teeth of

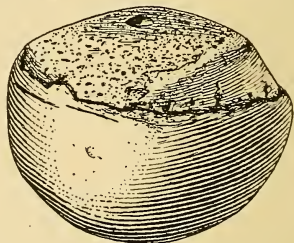


FIG. 5.—Object made from the end of a human femur, from a grave at Great Gully. (Actual size.)

various carnivorous animals are not uncommon on Iroquois sites.

Beads and Tubes.—Beads and tubes, made of naturally hollow bird-bones cut in sections, are familiar objects on all western Iroquois sites, and the writer has taken many from Erie and Neutral sites on both

sides of the Niagara frontier. He once found a necklace of thirty-six in an Erie ash-pit at Ripley, New York.

Bone beads and tubes are not infrequently ornamented with etched chevron figures, especially those from sites across the Canadian border. At the present time, such artifacts are still in use among the Menomini and the Winnebago, certain classes of medicine-men swallowing them for purposes of divination, and also using them to suck disease from their patients. Many seem to have been used solely for ornament. The writer has collected a number, both plain and etched, from both the tribes mentioned.



FIG. 6.—Bird-bone bead from Locke. (Actual size.)

Fig. 6 exhibits a bead made of a section of a hollow bird-bone, sawed off at both ends with a stone knife, and well polished. It came from the Locke fort.

Four hollow bird-bone tubes, or large beads, are shown in fig. 7, all delicately etched with chevron and other designs.

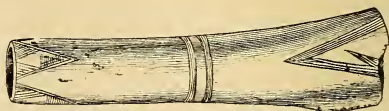
*d**c**b**a*

FIG. 7.—Engraved bone beads from a grave at Great Gully. (Height of *d*, $4\frac{1}{8}$ in.)

The two larger examples are $4\frac{1}{8}$ in. long; all four were found by the writer among a small deposit of various objects

with skeleton 1, on the Young farm at Great Gully. They were in contact with an iron bullet-mold, which has left stains and an incrustation of rust on them. The writer knows of no exactly similar objects, although a large tube of human bone from Jefferson county, New York, in the Museum of the American Indian, Heye Foundation, has reminiscent features in the incised design on its surface. Fine-line etching on bone objects seems to have been a favorite mode of embellishment with the Cayuga, in both prehistoric and historic times.

Combs.—Handsomely carved back-combs of bone and sometimes of antler, probably made solely for ornament, have been extensively used by all the Iroquois from prehistoric times until the middle colonial period, at least. The date of their disappearance from use is unknown, but it certainly long post-dated European contact.

On the earlier sites simple combs, with from three to five teeth each, have been found. Examples of this kind are figured by Beauchamp from prehistoric Onondaga, Mohawk, and Seneca sites,¹⁸ and by Parker¹⁹

from the Seneca. An Andaste comb of the primitive variety, found at Athens, Pa., is shown by Louise Welles Murray.²⁰

The more elaborate combs of the later period are broader, furnished with more teeth, sometimes exceeding twenty, and bear on their flat surfaces handsome designs, often of realistically carved animals or human beings. They occur commonly throughout the territory of the Five Nations, except, according to Beauchamp,²¹ on Oneida sites, where they may still be expected. In the Museum of the American Indian, Heye Foundation, are two excellent examples from the Neutrals, found in graves at St Davids, not far from Niagara Falls, Ontario, and the writer has seen several fragmentary examples from Andaste or Conestoga sites on the lower Susquehanna. Bone combs were unknown to the New York Algonkians, but one was found on the Minisink site in New Jersey by Messrs Heye and Pepper.²²

Beauchamp figures several Cayuga combs. One from Scipioville has the top carved to represent two men facing each other, per-

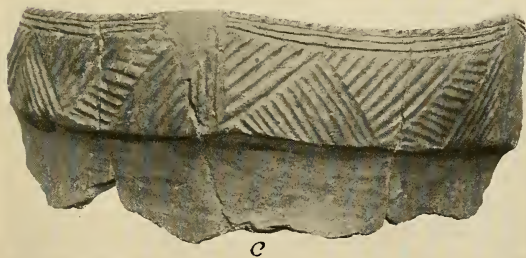
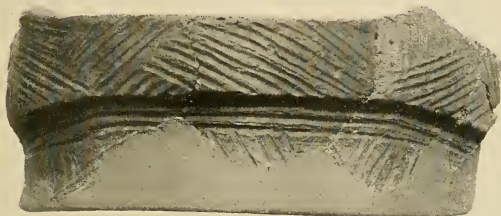
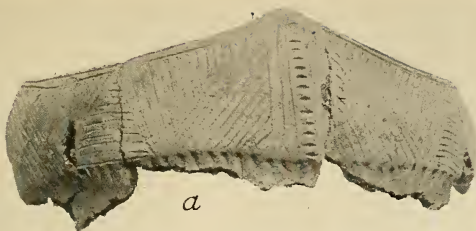
haps in combat.²³ It was found, like most Cayuga specimens, by Mr W. W. Adams, who is credited also with recovering one showing two snakes on the opposing sides, also facing each other. Another,²⁴ from Fleming, exhibits two turkeys face to face.

An outline drawing, seen by the writer, of a bone comb from Cayuga county in the private collection of Mr Palmer H. Lewis, of Katonah, N. Y., shows two indistinct figures, perhaps two headless men, carved on the back. From these notes, and from the specimens illustrated in this article, it will be seen that all later Cayuga combs thus far reported possess this feature of two opposing figures on the back or ornamented part.

A beautiful and nearly perfect bone comb, taken by the writer from grave 5 at Great Gully, is shown in pl. ix, *a*, *b*, which represent the obverse and reverse sides. The design portrays two long-tailed animals, probably panthers, rampant, climbing on their own tails in the conventional attitude so often observed on stone pipes among the New York and Canadian Iro-

quois. The tongues of the animals are joined. The comb is provided with twenty-one teeth, and from the fine cutting there can be no question that the specimen was made with metallic tools. It measures $3\frac{1}{2}$ in. high by $2\frac{1}{2}$ in. broad, and is covered with finely-etched designs on both flat surfaces, in characteristic Cayuga style. While a number of bone combs have been found in Cayuga county, on the sites at Fleming, Mapleton, and Scipioville, none compares with this example in excellence of workmanship.

Fig. 8 represents another bone comb, found many years ago by Mr W. W. Adams in a grave on the Mead farm at Fleming, and presented to the Museum by Miss Isabel Howland of Sherwood. It is slightly longer and narrower than the one from Great Gully, being $3\frac{3}{4}$ in. high by 2 in. broad. The design represents two partridges facing each other with joined bills, and, as in the other specimen, both flat surfaces are covered with finely-etched lines, in this case representing the plumage of the birds, and groups of chevron figures. The orna-



FRAGMENTS OF POTTERY JAR RIMS FROM PREHISTORIC
CAYUGA FORT, LOCKE



mentation on both sides being almost identical, only one surface is shown in the illustration. The comb is provided with nineteen teeth, of which five are broken.

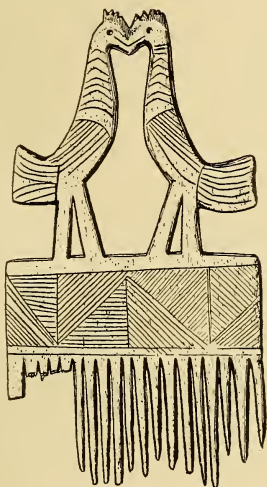


FIG. 8.—Bone comb with partridge design, from the site at Fleming. ($\frac{2}{3}$.)

Like the preceding (pl. ix) it has been made with metallic tools. There are slight stains of copper salts on it. This comb is

figured by Beauchamp,²⁵ who, however, gives it merely passing notice in his text.

ANTLER OBJECTS

Chipping Tools.—An antler prong worked into a rude cylinder, the end of which shows wear, as though it had been used as a chipping tool, was taken from an ash-bed at the Locke fort. An illustrated circular printed for Mr W. W. Adams figures a similar though better-made example, which was taken from a historic grave on the Mead farm, at Mapleton. These cylindrical antler tools are apparently commoner west of the Cayuga country, on Seneca and Neutral sites.

Cut Prongs.—Also found at Locke is an antler prong, one end of which has been cut off with a stone implement and partially hollowed. Traces of unfinished cutting may be seen on the opposite side near the base. This object may have been intended for a spear- or lance-head, until the tip was broken off. Not far from where this specimen was taken from the ash-bed, the writer obtained the base of an antler of a Virginia

deer, cut off at or below the fork and carefully ground down, and it exhibits grinding also at the proximal end. A longitudinal groove has been sawed in one side with a stone tool. The specimen was undoubtedly an implement in process of manufacture, but in its present stage its intended purpose cannot be determined.

Knife-handle.—Fig. 9 represents a neatly carved antler knife-handle from the Locke fort. A deep slot has been cut in the distal end to receive a blade, probably of flint, and a similar one in the proximal part, though for no apparent purpose. The latter end is broken off, but a perforation for suspension remains. On one side is a carved band, filled in with an incomplete zigzag ornament. The specimen, which is nicely polished, is grooved near the base of

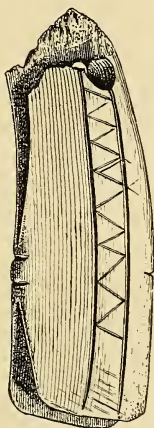


FIG. 9.—Carved antler knife-handle from Locke. ($\frac{3}{4}$.)

the blade slot to receive a thong or sinew binding for holding the blade firmly. It now measures $2\frac{1}{2}$ in. in length by $1\frac{3}{8}$ in. at the broadest part. Such handles are not common, but have been reported from a number of widely separated Iroquois localities.

Ornament.—A small spiral, carved of antler and having the appearance of being part of some larger object of unknown appearance, was found in a looted grave on the Young farm at Great Gully.

Condition.—A matter that has long aroused the scepticism of observers unfamiliar with Iroquois culture is the excellent condition of the bone and antler objects when unearthed. Many retain their polish, and even the grease with which they were saturated when lost, this being evidently due in part to the preservative nature of the beds of hardwood ashes in which they are commonly discovered. Similar objects found buried elsewhere, or plowed to the surface, disintegrate and soon resemble those from Algonkian shell-heaps of the coast. But the high polish of many



PORTION OF LARGE POTTERY JAR FROM PREHISTORIC
CAYUGA FORT, LOCKE

(Height, $9\frac{3}{4}$ in.)



bone artifacts may also serve to make them more resistant to decay than the roughly finished tools of the Algonkians. Illustrative of the grease retained in bone objects from Jefferson county, is the fact that the collection of Dr R. W. Amidon, of Chaumont, New York, was partly eaten and nearly destroyed by mice during his absence.

POTTERY

CHARACTER.—Inasmuch as the occupancy of Cayuga county by the Iroquois seems to have been of short duration, in comparison with that of the Algonkian tribes which preceded them, relatively little pottery of Cayuga manufacture exists in museums or in private collections. In prehistoric graves, clay jars are rarely found in the Iroquois country, and apparently not at all in the Cayuga territory. The time when such mortuary offerings were commonly made was from the period of the first contact of white people to relatively modern times. In the Seneca confines, for example, the graves most productive of pottery and other native arti-

facts are those which date from the time of the advent of the first Europeans, to whom, judging by these mortuary evidences alone, is attributable a gradual infiltration of foreign articles. With the Cayuga, judging by the archeological work the writer has done and by the collections he has examined, it would seem that their contact with the whites was sudden and close, and that they passed from a prehistoric to a mixed colonial culture at once, without any intermediate transition period. Consequently, Cayuga graves commence abruptly to contain objects of which by far the greater proportion is European. One Cayuga jar from Scipioville is illustrated and described by Beauchamp.²⁶ It is rather plain and not typical.

Mr W. W. Adams reports but two native vessels as a result of his extensive diggings, one of which was found in a brass kettle. This is probably the example figured in pl. x. The writer found traces of one earthen jar on the Young farm at Great Gully. All other native pottery of which there is any knowledge is fragmentary, and comes from

ash-beds or pits on prehistoric sites. Specimens were obtained at the Locke fort (which yielded by far the greatest quantity), at Aurora, and at Cato. With two exceptions the examples figured in this paper are from Locke.

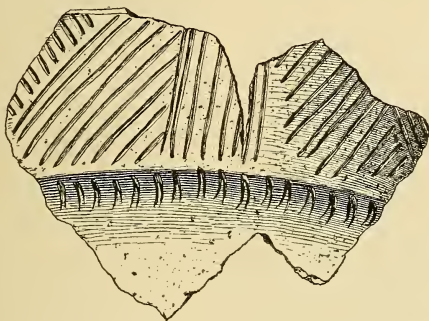


FIG. 10.—Sherd of a Cayuga jar found near Locke.

CLASSIFICATION.—Cayuga pottery may be divided into three groups, as follows: (a) Archaic Iroquois, in which the typical rounded bottom, constricted neck, and overhanging rim with the notched angle, are foreshadowed by a weak development of all these features, as seen in pl. XIII and

fig. 10. This type of ware closely resembles that found by Mr A. C. Parker, State Archeologist, on the Reed farm at Richmond Mills and at Burning Spring in Cattaraugus county, both early Seneca sites.

A second form (*b*) is similar to the more highly developed eastern Iroquois pottery

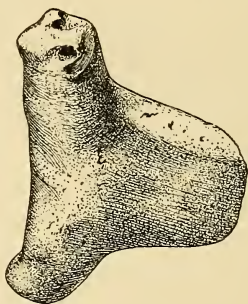


FIG. 11.—Fragment of a terracotta figurine from Aurora. (Actual size.)

of Jefferson county and the St Lawrence region, as shown in pl. XII. Here the narrowed neck and notched collar are pronounced. A small but entire example of this ware is shown in pl. x. It is about

six inches high and of two and a half pints' capacity. There are conventional human faces on the rim.

The third and last type (pl. XIV) is similar to that of the western Iroquois style, as noted on Seneca and Erie sites of the early



RIM SHERDS OF CAYUGA JARS OF CENTRAL IROQUOIS TYPE FROM PREHISTORIC
FORT AT LOCKE



contact period, where the overhanging collar, or cornice, narrows or disappears.

Few designs impressed with a cord-wrapped stick are seen on early Cayuga earthenware, but an example shown in pl. XI, *b*, was found in a grave on the Young farm at Great Gully. In the same plate, *a* represents a sherd from the prehistoric site at Cato, decorated in the same manner.

Fig. 11 represents a portion of a small animal figurine of pottery, found at Aurora. It is a most unusual, though crude, example.

PIPES.—Such earthenware pipes as have come to the writer's attention from prehistoric Iroquois sites in Cayuga territory are all made of light, reddish clay. These pipes still appear on sites of the colonial period, but at these later places dark-gray and even polished black earthen pipes occur abundantly. This, of course, is due to western Iroquois influence through captives from tribes across the Niagara frontier and to the south.

Early Cayuga pipes are not abundant, and as they are found in ash-beds and not

in graves, they are generally broken. Those seen or obtained by the writer consist principally of the trumpet and the coronet or square-topped, forms, although there is reason to suppose that the kind having the bowl made in imitation of an ornate Iroquois earthenware jar is old as well as recent. The latter type of pipe is somewhat more commonly reported from Cayuga sites than elsewhere in the Iroquois country, though known especially in Jefferson county. Early Cayuga pipes are also inclined to be less angular in outline than those of later date. No effigy pipes have as yet been reported from sites antedating colonial contact, though there is no good reason to suppose that they may not exist. On later sites, where deposits of artifacts occur in graves, entire pipes are found, though sparingly, and among these a variety of effigy forms has been recorded, commonest of which is the style in which a face, either animal or human, is turned toward the smoker. Those in which the face is that of a man (fig. 18, *a*) predominate.

Beauchamp²⁷ figures an effigy pipe found at Scipio by Mr Adams, the bowl of which has an upturned raven's head in front, the rear being made in the form of a miniature jar. Another pipe, shown by the same

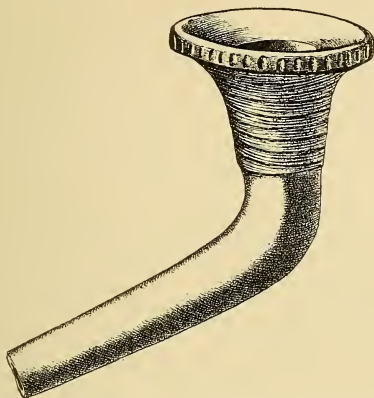


FIG. 12.—Trumpet pipe of terracotta from Venice Center.
(About $\frac{3}{4}$.)

author,²⁸ is described as from Cayuga county; it has the bowl in the form of a bear's head, with jaws open to receive the tobacco. From Venice, in the same county, Beauchamp illustrates²⁹ a trumpet pipe

which may be a poor reproduction of the same pipe shown in our fig. 12. Two other Cayuga pipes represented in the same publication show the vase or jar form, and also a fine wolf-head pipe taken by Mr Adams from a grave at Mapleton. Other Cayuga county clay pipes figured by Beauchamp are Algonkian in origin. By way of contrast fig. 13 is presented as an example of a number of these, collected mainly by the writer from various Algonkian sites in Cayuga territory.

In the collection of Mr Palmer H. Lewis, of Katonah, N. Y., are a number of Cayuga pipes of the usual types. One of these has a long brass mouthpiece fitted to a clay bowl and stem, a peculiarity that the writer has twice before noted in Cayuga pipes, there being an example with a pewter stem in the Douglas collection in the American Museum of Natural History, and another in private hands in Scipioville, N. Y.

The writer has yet to see an effigy pipe of the blowing false-face type from anywhere in Cayuga territory, though this form occurs

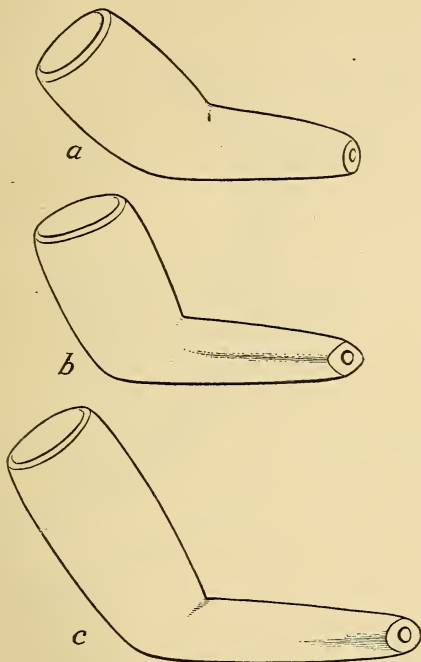


FIG. 13.—Algonkian pipes from Cayuga county.

fairly abundantly on later Seneca sites, and sometimes on Onondaga sites of the colonial

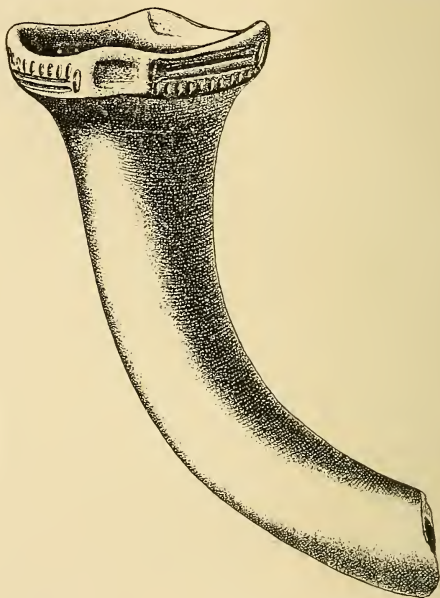


FIG. 14.—Coronet pipe of terracotta from Locke. ($\frac{3}{4}$.) epoch. They are probably an importation from the Neutral-Huron tribes of the western Iroquois group.

A square-topped, "coronet," pottery pipe, lacking the mouthpiece, found by the writer in an ash-bed in the prehistoric fort at Locke, is represented in fig. 14. In its present condition this specimen measures $4\frac{1}{2}$ in. in length around the curve, which is less abrupt than usual. The specimen is made of fine, apparently untempered clay, pinkish in color, mottled with black. The

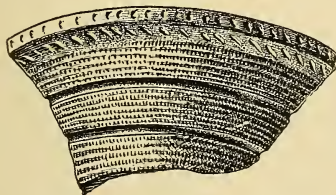


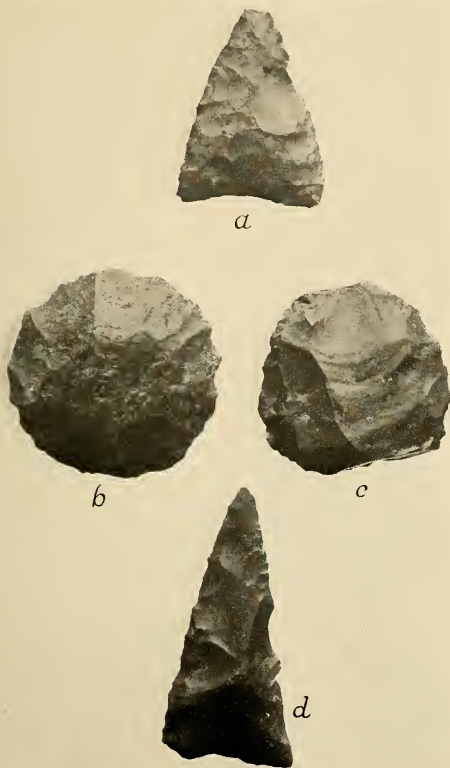
FIG. 15.—Fragment of a pipe-bowl from a grave at Great Gully. (Actual size.)

type is one found in the Seneca country, thence westward into Canada, and, less frequently, eastward to Jefferson county.

A neat little pink-and-gray, mottled, terracotta pipe of the trumpet variety, in the Museum's collection, is shown in fig. 12; it was found in a grave at Venice Center, probably by Mr Adams. It is unusually

small, although a portion of the tapering stem seems to be missing. The bowl is decorated with many finely etched bands, and the rim, which approaches the disc form, is notched along the edge. The specimen measures about $4\frac{1}{2}$ in. around the curve, which is rather sharp. A fragment of the bowl of a still handsomer trumpet pipe is shown in fig. 15; it came from the earth in a sepulcher in Cemetery 2 on the Young farm. The same form of pipe, but generally undecorated, occurs on prehistoric Cayuga sites.

Fig. 16 represents a slender, graceful, terracotta pipe, the bowl of which is decorated with a variant of the line-and-dot pattern so widely distributed throughout the Iroquois territory, and in this rather delicate form seems commoner in the Cayuga and perhaps Onondaga areas than elsewhere. Among the western tribes it is heavier and shorter. The specimen illustrated was found in a grave on the Young farm at Great Gully by the father of the present owner, and was presented to the Museum by Mr Ernest J. Young. It



CHIPPED FLINT OBJECTS FROM CAYUGA SITES

(Length of *d*, $1\frac{1}{2}$ in.)



measures 8 in. around the outside of the curve, and is made of uniformly gray clay. It bears on its bowl a slight deposit of rust from an iron object with which it lay in contact.

The bowl of a pipe somewhat similar to the last is presented in fig. 17, *a*. This

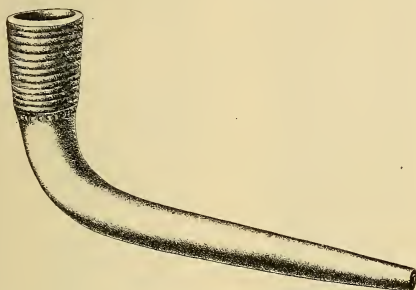


FIG. 16.—Terracotta pipe from a grave on Young farm, Great Gully.

fragment was taken from the fill in grave 5, on the Young farm at Great Gully. The stem was not present, and had probably not been cast into the grave. It is of red-and-gray mottled clay.

Another pipe-bowl, ornamented with a design somewhat similar to that of the pre-

ceding, is illustrated in fig. 17, *b*; it was presented to the Museum by Mr Benjamin

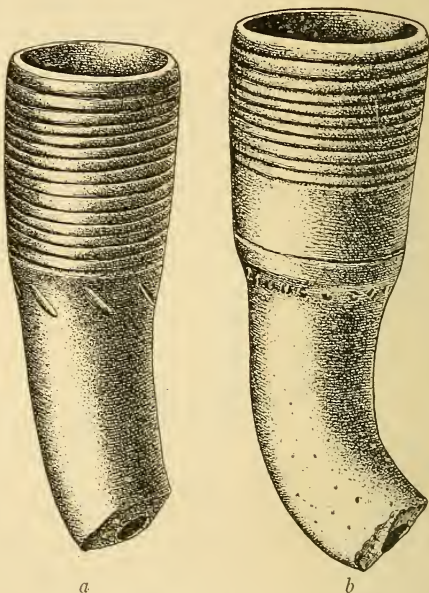


FIG. 17.—Terracotta pipe-bowls from Great Gully and Scipioville. (Actual size.)

L. Watkins of Scipioville, who found it on his farm. It is made of mottled-gray clay.

Also presented by Mr Watkins is a disc-topped pipe with a human face, turned toward the user, on the rear of the bowl (fig. 18, *a*). The dull-gray color of the

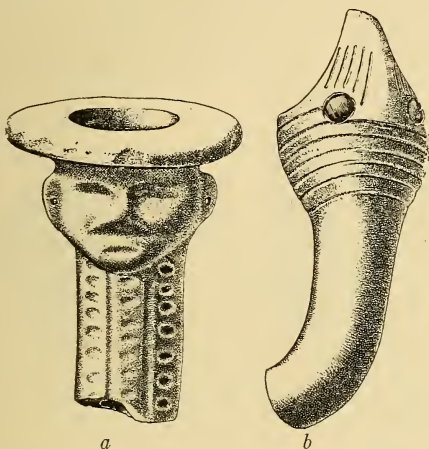


FIG. 18.—Terracotta pipe-bowls: *a*, from Scipioville; *b*, from Genoa. (Extreme diameter of *a*, $1\frac{7}{8}$ in.)

pipe is accentuated by much weathering. The ears, which are modeled in bold relief, are pierced, as though for earrings. As is often the case with Cayuga pipes, the inner

curve of the stem is ornamented with longitudinal lines and rows of dots.

A portion of a gray-clay pipe, the bowl of which represents a raven with open beak, the mouth being the receptacle for tobacco, is represented in fig. 18, *b*. An interesting and unusual feature is that the eyes are com-

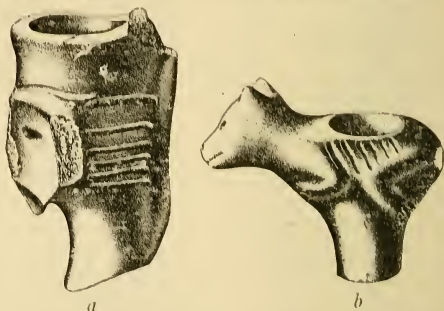


FIG. 19.—Terracotta pipe bowls: *a*, with owl(?) effigy, from Union Springs; *b*, with bear effigy, from Fleming. (Diameter of *a*, $1\frac{1}{8}$ in.)

posed of small leaden pellets, or large shot, set into the terracotta. This pipe was obtained by the writer from a site near Genoa.

Fig. 19, *a*, shows a bowl broken from a black polished clay pipe of the western type, recorded as having been found at

Union Springs. It represents an owl or an owl-man being, facing the smoker, as usual. The front of the bowl is ornamented with parallel rows of horizontal lines, over which is a surrounding vertical figure, extending down to the curve of the stem beneath the face. This figure may have been intended to represent a snake peering over the edge of the bowl, where a broken protuberance seems to indicate the head.

Fig. 19, *b*, represents the bowl of an animal-effigy pipe of polished black pottery, also of the western type, taken from a grave on the Mead farm near Fleming, by Dr F. C. Smith of that village, who presented it to the Museum. The orifice for tobacco is in the center of the back of the animal, which faces the stem. What mammal the maker intended to represent is problematical. If it was a bear, as the head suggests, it is odd that a long thin tail should be modeled on the front of the bowl.

An unusually fine pipe, found by a Mr Helmar on the bank of the Barge canal near Montezuma, was obtained by purchase through Mr George Nichols of Cayuga

(fig. 20). As there is no known Iroquois site near by, the specimen may have been lost by some hunting or fishing party in the great Montezuma marshes. Unlike the other pipes figured herein, the clay of which this specimen is made was tempered

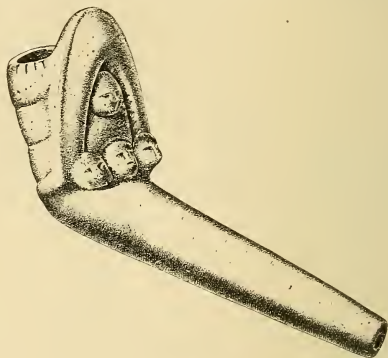
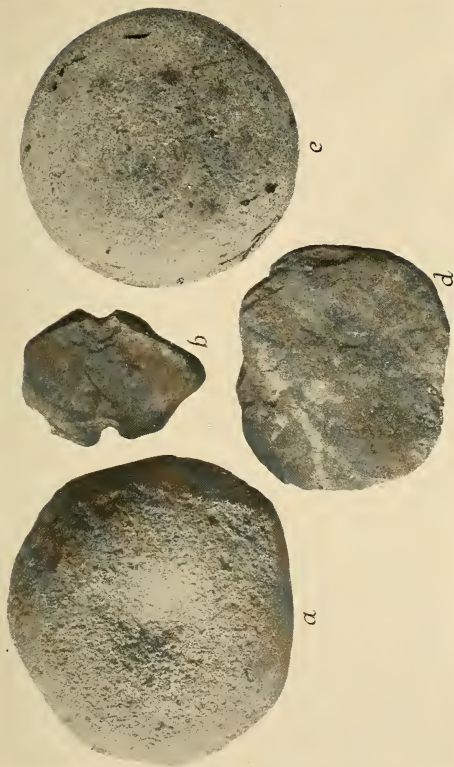
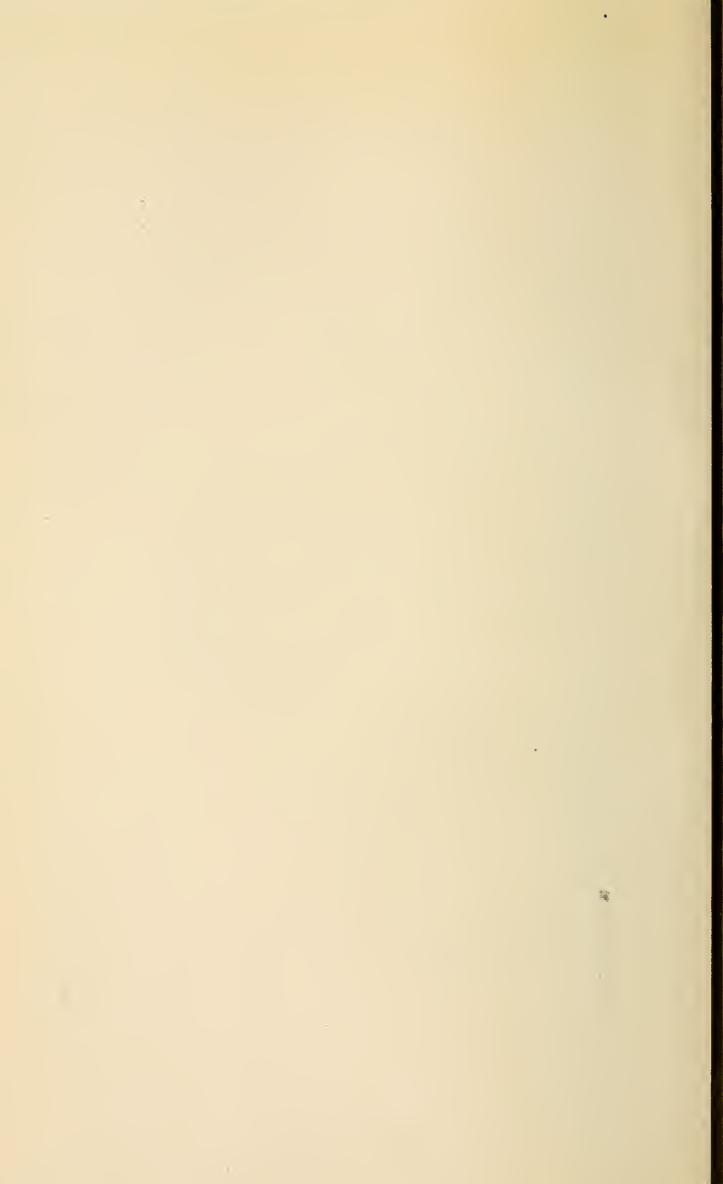


FIG. 20.—Terracotta pipe with niche bowl, found near Montezuma.

with an admixture of sharp sand, which is now visible as the polished surface has weathered away. The rear part of the bowl is designed to represent a niche or shield upon which are grouped four human faces, one in the apex of the niche, the other three



HAMMERSTONE, NET-SINKERS, AND MULLER FROM CAYUGA SITES
(Diameter of *c*, $3\frac{7}{8}$ in.)



in a row across the base. The front of the bowl is ornamented with parallel rows of lines. Similar pipes have been reported from Jefferson county, and one found on the Putnam farm, near Watertown, will be described in another part of this paper. The Cayuga pipe measures $5\frac{1}{4}$ in. around the curve, and is light-gray in color.

STONEWORK

CHIPPED-STONE OBJECTS.—Outside of stone pipes, hammers, and celts, few implements of stone were made by the Cayuga at any period. Pl. xv, *a*, *d*, represent two typical triangular arrowpoints, the former from the Locke fort, the latter from the much later site at Young's farm on Great Gully. These triangular arrowpoints and small oval or lanceolate flint knives, with flint scrapers (pl. xv, *c*, is from the Young farm site), and, during the historic period, gunflints of native make (pl. xv, *b*, is from a grave at Fleming), comprise nearly the entire list of Cayuga chipped flints. Curiously enough, chipped-stone objects of this nature are apparently more abundant on

sites of the historic than of the prehistoric period, in spite of the availability of metal tools and materials.

The gunflints have often been called "gambling flints," but there seems to be no justification for this term. When found in graves they are nearly always in association with guns and gunsmiths' tools.

RUDE STONE OBJECTS.—Net-sinkers of several types occur. Pl. xvi, *b*, represents a flat, notched pebble from Locke, similar to those found at Cato, Aurora, and on historic sites. Pl. xvi, *d*, shows another, rounder and chipped about the circumference; it is from the surface on the Young farm. This type of stone implement may not be a sinker. The writer found one, very similar to the example illustrated, set over the mouth of a pottery jar in an Andaste grave near Athens, Pa.

Pl. xvi, *a*, represents a common pitted hammerstone from the Great Gully site, and *c* a polished quartzite muller, or corn grinder, nearly as well made as some of the better class of discoidal stones from the South. It was found in or near Scipioville.

POLISHED STONE OBJECTS.—Pl. xvii represents a series of celts, the ordinary Iroquois hatchets; *a*, *d*, and *e*, are from Locke, and *b*, *c*, from the Young farm at Great Gully, showing that these stone-age tools survived by some time the invasion of the whites and the advent of trade axes, being not uncommon during the Jesuit period, at least.

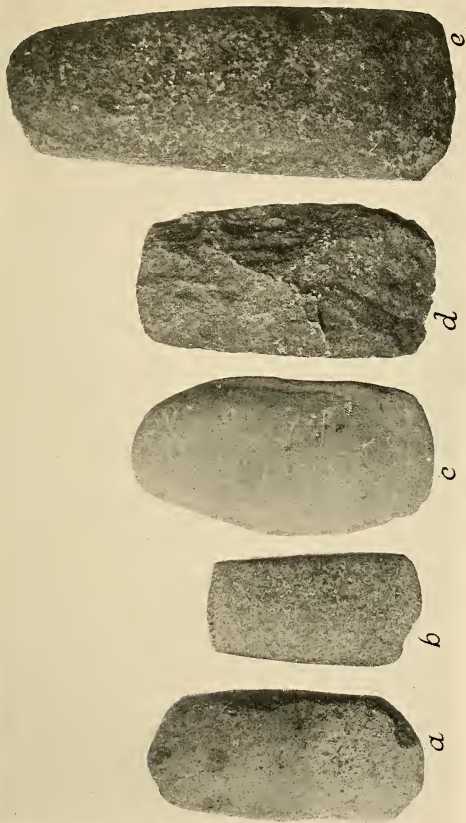
Pl. xvii, *a*, illustrates a celt from Locke, degraded by use as a hammerstone, the edge having been entirely battered away.

Several tiny celt-like objects of slate were found at Locke, which the writer supposes to be pottery gravers. The soft material of which they are made precludes their use for cutting such resistant materials as wood, bone, and stone. They are not at all uncommon in the Locke ash-beds.

PIPES.—Certain archeologists, especially Parker,³⁰ have asserted that Iroquois stone pipes are totally different in type from those of clay, a statement with which the writer agrees in part. It is true, indeed, that the common bowl pipes, that is, pipes whose stems do not form a permanent part thereof, but require the insertion of a stem of

wood or of reed, seldom have any counterpart in clay, but during the colonial period, at least, nearly all the clay forms were imitated in stone. In the collection of the Museum of the American Indian, Heye Foundation, are examples of the square-topped "coronet" form, the blowing false-face, the pipe with the niche containing a human figure at the rear of the bowl, and several other varieties in both clay and stone. The writer has also seen one stone example of the common line-and-dot pipe, from a Canadian Neutral grave at St Davids, near Niagara Falls. The statement mentioned above cannot therefore be accepted in its entirety. It does appear, however, that as a rule monolithic stemmed stone pipes, at least so far as effigy forms are concerned, were made by the Iroquois at a later period than those of the same pattern in clay.

Difficult as was the task of making, and especially of boring, the stems of these pipes, some plain forms are unquestionably pre-historic. One of these, from a pre-Colum-



CELTS FROM CAYUGA SITES
(Length of *e*, 5½ in.)



bian Onondaga site in Jefferson county, is illustrated elsewhere in this paper (pl. xxxvii, *b*).

Both stemmed and stemless stone pipes occur, though sparingly, in the Cayuga country, but none of the latter form are represented in the collections of this Museum. There are several in the collec-

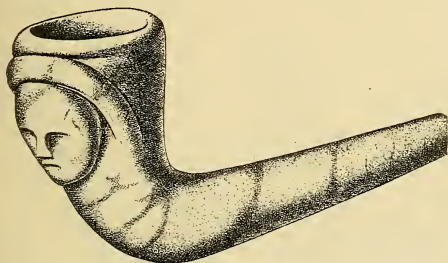


FIG. 21.—Stone pipe with carved face, found on site near Montezuma.

tion of Mr Palmer H. Lewis, of Katonah, N. Y., and others are in private hands in Cayuga county.

A beautiful little pipe of orange-and-black mottled stone, with a well-carved human face on the front of the bowl, away from the user, is shown in fig. 21. In

length, outside the curve of the stem, this specimen measures 5 in. It was obtained through Mr George Nichols, of Cayuga, from Mr Helmar of Montezuma, who found it near where he obtained the pipe shown in fig. 22. This type with the face

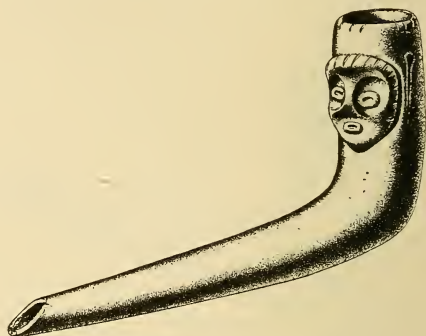
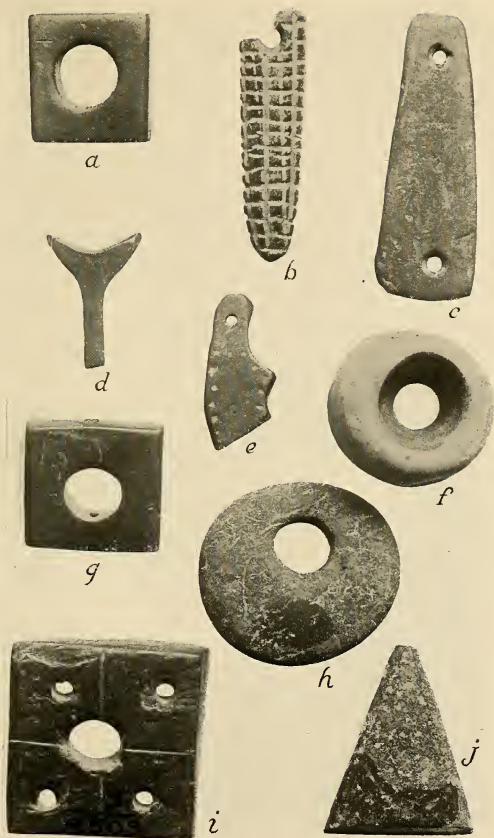


FIG. 22.—Stone pipe with effigy facing smoker, from near Owasco lake.

in front is not common, and is generally considered later than those with the face turned backward, on what grounds the writer cannot say.

The pipe figured in fig. 22, which measures $7\frac{1}{2}$ in. over the outside of the curve,



STONE BEADS AND PENDANTS FROM CAYUGA SITES

(Length of *c*, $1\frac{3}{8}$ in.)



is made of compact, close-grained stone, perhaps steatite, of uniform gray. On the rear of the bowl is a well-modeled human face in high relief, flanked by two elongate, comma-like slots. This excellent example of Cayuga handicraft was found near Owasco lake, and was presented to the Museum by Mr E. H. Gohl, of Auburn, who has many pipes from Cayuga county in his large collection.

Pipes of earthenware have already been referred to.

CHARMS AND BEADS.—Small stone masks and heads are sometimes found in many parts of the Iroquois country, both in New York and in Canada, and the Cayuga sites are no exception to the rule. A pretty little carving, representing a man's full face, was found by Mr E. J. Young on the Great Gully site, and fig. 23, *a*, represents another, not so well done, found at Scipioville by Mr Benjamin L. Watkins, who kindly presented it to the Museum. The material is red shale. It is interesting to note that the maker placed the eyes above the eye-brows, and that the mouth is double. Pos-

sibly the carving represents some mythical character.

A small, neatly carved, stone pendant (fig. 23, *b*) from near Mapleton was presented by Mr Ralph Theurer of Auburn. It is perforated laterally for suspension,

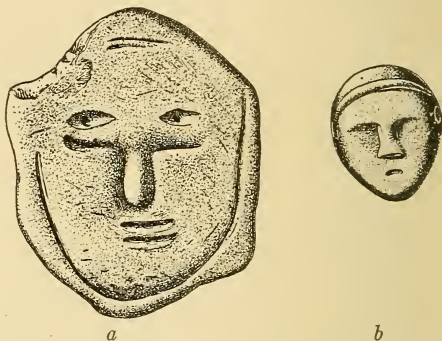


FIG. 23.—Stone maskettes from Scipioville and from near Mapleton. (Height of *a*, $2\frac{1}{8}$ in.)

and resembles several others seen by the writer from Oaklands and Scipioville. The material is a red shale resembling catlinite.

Four carved catlinite beads are represented in fig. 24, being part of a lot of thirteen found by the writer in grave 1 on the

Young farm at Great Gully. These beads, with one exception, are notched at the edges, and, in the case of *c*, slightly etched on the flat surfaces. The other beads are mostly long and narrow; the longest is $2\frac{1}{4}$ in. by $\frac{1}{8}$ in., and is rectangular in cross-

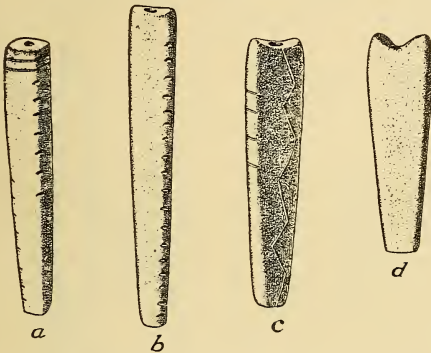


FIG. 24.—Catlinite beads from a grave at Great Gully.
(Length of *b*, nearly 2 in.)

section, but plain. They were, of course, made with metal tools.

A typical series of red shale and catlinite beads from Scipioville is shown in pl. XVIII, *a*, *d*, *g*, *i*, presented by Mr B. L. Watkins. The first of these (*i*) was perforated through



FIG. 25.—Quatrefoil stone ornament from Fleming. (Actual size.)

found by the writer on the surface of the shell-heap on the south bank of Spuyten Duyvil creek, Manhattan Island, New York City.

Pl. XVIII, *c*, *e*, represent two more odd forms, both of shale, from the same site and donor; *a* and *j*, of catlinite, were obtained by the writer at Genoa, not far away. Of these, *b* seems to be a pendant carved to resemble an ear of corn.

A small, gray slate ornament, or charm, quatrefoil in shape, found by the writer in an ash-heap on the

the edges, but a piece has scaled off, showing the drilling; *g* is also perforated laterally, as well as centrally, but is entire. In material and concept these closely resemble a specimen



FIG. 26.—Tubular shell bead from a grave, Great Gully. (Actual size.)

Mead farm at Fleming or Mapleton, is shown in fig. 25. Two natural concretions used as beads, which he found in ash-beds on the prehistoric fort site at Aurora, are shown in pl. XVIII, *h, f*.

SHELL ARTICLES

In his work on "Wampum and Shell Articles," Beauchamp presents an account of the shell runtees of New York, in



FIG. 27.—Shell beads: *a*, from Scipioville; *b*, from Venice Center. (Actual size.)

which he refers to several from Cayuga county, and figures one similar to the specimens here described. Like examples were found by Messrs Heye and Pepper in the Munsee cemetery at Montague, New Jersey.³¹ There is no good reason to doubt that these runtees are native in origin.

Wampum beads, both purple and white, are commonly found in historic Cayuga graves, and often in quantities. Mr W. W. Adams records finding as many as five thousand on one decomposed belt. The writer found them at Great Gully, Venice Center, and Mapleton.



FIG. 28.—Shell pendant or duck bead, from Fleming. (Actual size.)

Long, tubular, shell beads were found in grave 7 at Great Gully (fig. 26) and wampum in grave 2. A heavy shell bead (fig. 27, *a*) was presented by Mr Watkins, of Scipioville, and many discoid shell beads are reported from various sites. Fig. 27, *b*, represents one of these from a disturbed grave at Venice Center.

A carved shell bead, or pendant, of duck form, from a grave near Fleming, probably on the old Mead farm, is illustrated in fig. 28. As all these are typical of historic Iroquois sites in other parts

of New York, they require no further description here.

One of the seven shell runtees, about $1\frac{1}{4}$ in. in diameter, found with some tubular shell beads in grave 7, is shown in figure 29; they are from the Young farm at Great

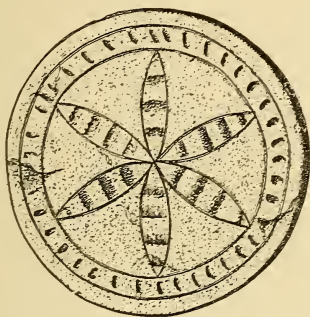


FIG. 29.—Shell runtee from a necklace found at Great Gully. (Actual size.)

Gully. The ornaments lay side by side (each has double lateral perforations), with the tubular beads at each end, just as the necklace composed of them was deposited at the feet of the skeleton (fig. 30). They are all adorned with an incised, star-like de-



sign. Runtées of this type occur on many historic Iroquois sites.

TRADE ARTICLES

An abundance of trade articles (pl. XIX) have been found at all historic Cayuga sites, but all the forms are so well known as to need scarcely more than enumeration. They include great numbers of iron axes of the usual colonial type, iron hide-scrapers, jew's-harps, swords, guns, scissors, bullet-molds, knives, brass and copper kettles of various sizes, pewter and china dishes, glass beads of numerous kinds, hawk-bells, Jesuit rings (fig. 31), and crucifixes, brass fishhooks (pl. XIX, *b*), and many articles made by the Indians themselves from

scrap brass. In
 FIG. 30. — Bead necklace as found in a child's grave at Great Gully. (Length, 15½ in.) pl. XIX, *a, e, f, g*, is presented a

series, of trade-metal arrow-heads from Great Gully and Fleming, and *h* shows a brass mat-needle with a central perforation, from Great Gully. A rolled brass jingler is illustrated in *d* of the same plate; it is similar in form to the rolled conical arrowhead shown in *a*.



FIG. 31.—Jesuit rings from Cayuga sites. (About $\frac{3}{4}$.)

In the collection of Mr Palmer H. Lewis there is a round, double, convex brass rattle, ornamented with a simple design in dots or perforations; it was taken from a Cayuga grave.

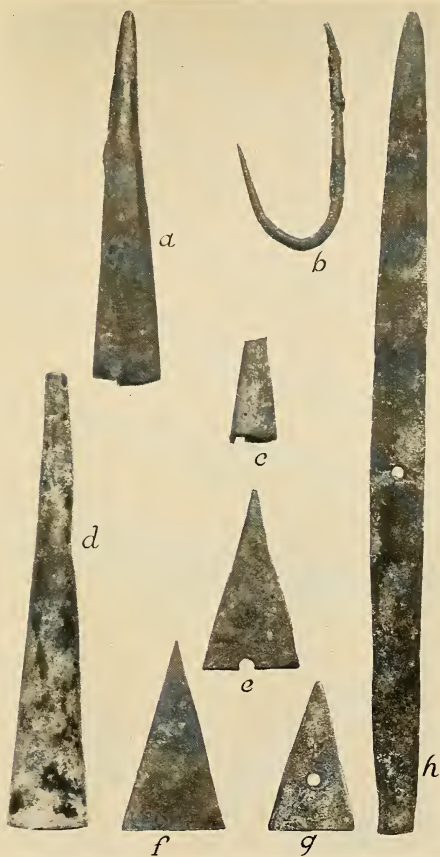
III.—ARCHEOLOGICAL RESEARCHES
IN JEFFERSON COUNTY,
NEW YORK

INTRODUCTION



JEFFERSON COUNTY, New York, has long been recognized by archeologists as one of the early seats of the Onondaga, whose territory, with that of the Oneida and the Mohawk, was the scene of the highly individualized culture formerly regarded as characteristically Iroquois, but now known rather as a phase, albeit an extreme one, of the general Iroquois culture.

Here are more sites of former occupancy on formidable hilltops than in any other region; here earthen walls and traces of log stockades abound. Nowhere else in the Iroquois country did pottery forms and effigy pipes attain such a high degree of development, and in no other part of the Iroquois area are bone and antler objects so



TRADE ARTICLES FROM CAYUGA SITES

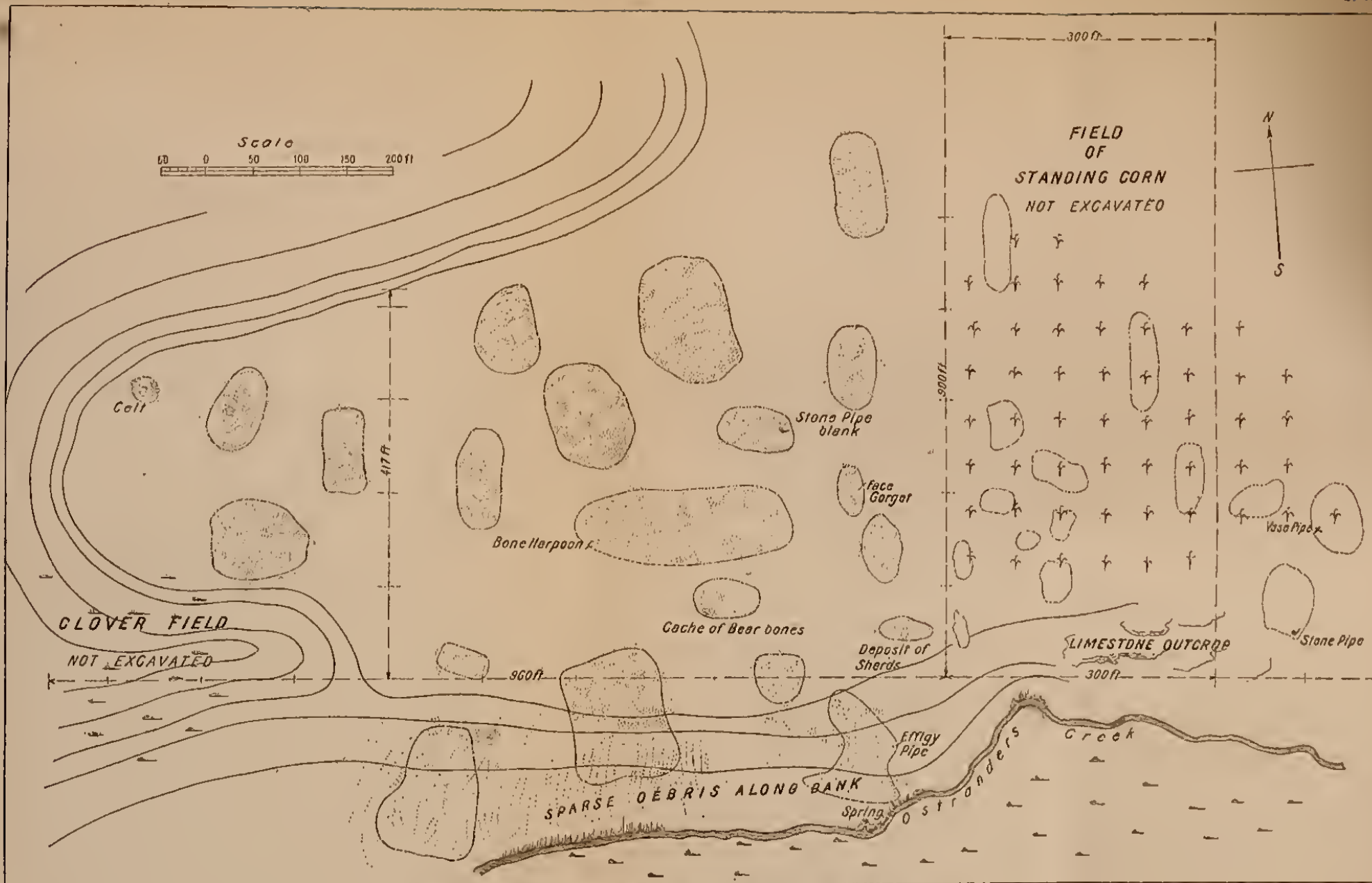
(Length of *h*, $5\frac{3}{4}$ in.)



SKINNER—IP







MAP OF THE PUTNAM SITE, BLACK RIVER, JEFFERSON COUNTY
After a drawing by Reginald Pelham Bolton, Esq.

THE HISTORY OF THE



THE HISTORY OF THE

abundant, and artifacts of chipped stone correspondingly rare. Moreover, there are no great historic sites in the country—everything is prehistoric if we except occasional European objects that have been found on a few sites.

The historic seats of the Onondaga lie farther south, chiefly in the county that bears their name, and these, moreover, while having much in common with their forerunners in Jefferson county, yield many artifacts of a different nature, attributable to a western Iroquois origin.

As it was from one of the eastern Iroquois people, the Mohawk, that the Indians about greater New York and the lower Hudson derived their later cultural impetus, it was believed to be of especial interest to send an expedition into the general region to explore such ancient sites as yet remained.

Accordingly, in July and August, 1919, the writer, accompanied by Rev. Dr William R. Blackie and his son, William R. Blackie Jr, as volunteer assistants, located and excavated the site described in this section.

Especial thanks are due to Mr and Mrs L. H. Putnam, who not only gave permission to the party to excavate on their property, but rendered valuable assistance in many ways, and presented to the Museum their own choice collection. Mr William A. Moore of New Rochelle, and Mr Carl E. Dorr of Syracuse, both extended their hospitality and aid, and it is due to them that much of the success of the work was made possible. Dr W. M. Beauchamp, dean of New York archeologists, although in his ninety-first year, honored the party by a visit and an inspection of the work through several days.

It is disheartening to be obliged to state that, with all the exploration and collecting done in Jefferson county, no attempt has been made to record any data respecting the occurrence of material found, nor to describe the sites and their attendant phenomena, since the brief sketches published by Squier³² and Hough.³³ Many sites in Jefferson county have been listed by Beauchamp,³⁴ but no account of the Putnam site has hitherto been recorded.

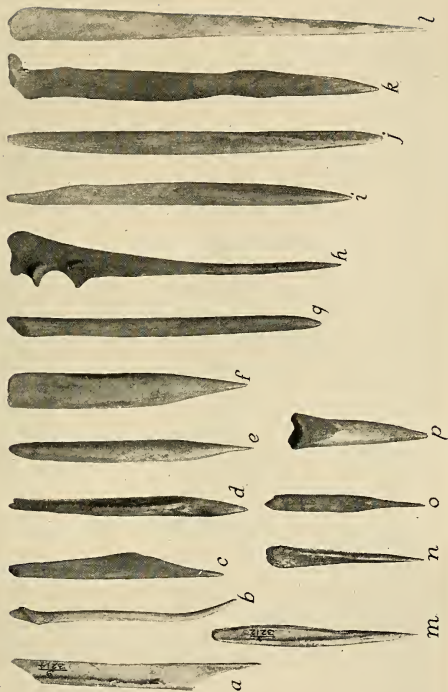
PREHISTORIC ONONDAGA SITE IN
BLACK RIVER VILLAGE

On Pearl Street road, two miles east of Watertown, in the township of LeRoy and the village of Black River, on the farm of Mr L. H. Putnam, is a prehistoric Onondaga village-site. Crossing the Putnam farm half a mile north or northwest of Black river, is a long, low, sandy ridge which overlies the limestone rock, and here ancient ash-beds, scattered over an area of ten acres, are proof of former Indian occupancy (pl. xx). To the westward a quarter of a mile, beyond a low gap in the ridge, is the site of a small camp, the débris of which sparsely covers several knolls, perhaps four acres in extent, with artifacts indicating identity in material culture with those of the great village. Distributed over this second group of knolls, and thence westward, are sparse traces of an earlier people, notched flint points, large stemmed knives or spears, numerous flint or quartz chips, and crumbling, ill-made pottery, attesting the presence of a previous roving Algonkian community. A single stemmed flint arrow-

point found on the great site was no doubt lying there when the first Onondaga pioneer set foot on the ridge.

The majority of the Iroquois sites in this vicinity are on high hilltops, and several, not more than a mile or two distant, across Black river to the south, overlook the Putnam farm from the summit of the Rutland hills. Two other lowland sites are near, one a mile and a half away, in the heart of the village of Calcium (once called Sanford's Corners), the other perhaps two and a half miles eastward, on the Rodney Whitney farm on Rabbit street, in Black River. The latter was once fortified by an earthwork. No signs of fortifications have been found on the Putnam farm. The defence, if any, must have been a single log stockade.

Owing to the unusual low situation of the former village, so close to the river-bottom, the Putnam site had not been detected by curiosity seekers, notwithstanding the fact that near-by Watertown is the abode of many industrious collectors; indeed, out of nearly twenty-five Iroquois sites examined in this county, that on the Putnam place



BONE AWLS FROM PUTNAM SITE, BLACK RIVER, JEFFERSON COUNTY
(Length of *l*, 6 $\frac{3}{4}$ in.)



alone seemed to have suffered comparatively little from looters, all the others having been ransacked for the attractive effigy pipes, bone implements, and potsherds characteristic of the region. The site under consideration has not altogether lacked attention, for many fine specimens have been carried away to be lost or destroyed; yet, with the exception of some digging by Mr and Mrs Putnam, who kindly presented to the Museum the result of their efforts, no systematic excavation had been done before the arrival of our party.

OCCURRENCE OF ARTIFACTS

The artifacts recovered from the Putnam site were found in beds of black charcoal and gray wood ashes, irregularly oval in shape and varying in length from four to forty feet. No deep beds were encountered, three inches to a foot being the extreme and six inches the average depth. In consequence of this, the objects concealed in the earth were frequently broken or brought to the surface by plowing; hence

many have been carried away by collectors. It was only in the hillside dumps, in the pastures along the edge of the ridge overlooking the springs which are the head of Ostrander's creek, that undisturbed ash-beds were found. Most specimens were obtained in the black charcoal layer near the surface, often among the grass roots. Not many were found in the white or red ash which invariably lay beneath. Few genuine pits, such as are a feature of Iroquois sites elsewhere, and of New York coastal Algonkian sites, were discovered; those encountered seem to have been either natural depressions or old stump-holes filled with ashes, the lack of aboriginal objects and the decaying roots of former forest trees betraying their origin. Two pits that may have been due to human agency were found, but this is by no means certain.

It is impossible to say exactly how many ash-beds occurred on the site, as some were hidden under growing crops, but probably there were as many as thirty or thirty-five. Twenty-five of these beds were carefully examined by the Museum's party, the ashes

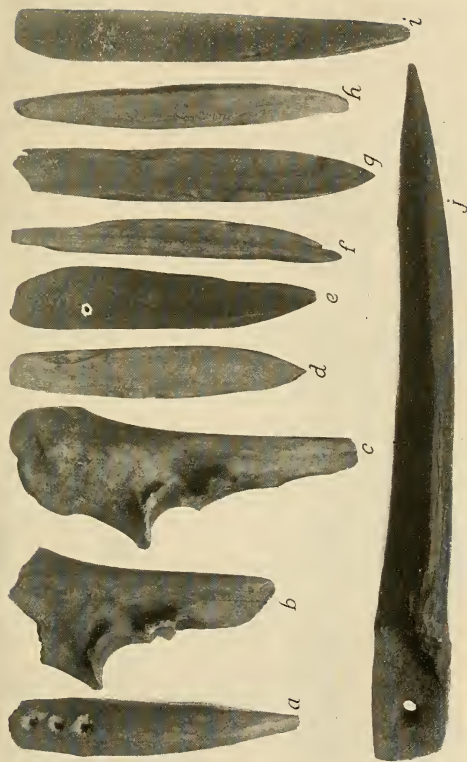
being troweled and often screened, with gratifying results.

No cemetery was discovered, although diligent search was made. It may be miles away, or the bones of the dead from this once populous village may repose in some communal grave with the erstwhile inhabitants of several villages. A number of such ossuaries were found in the Rutland hills in former years.

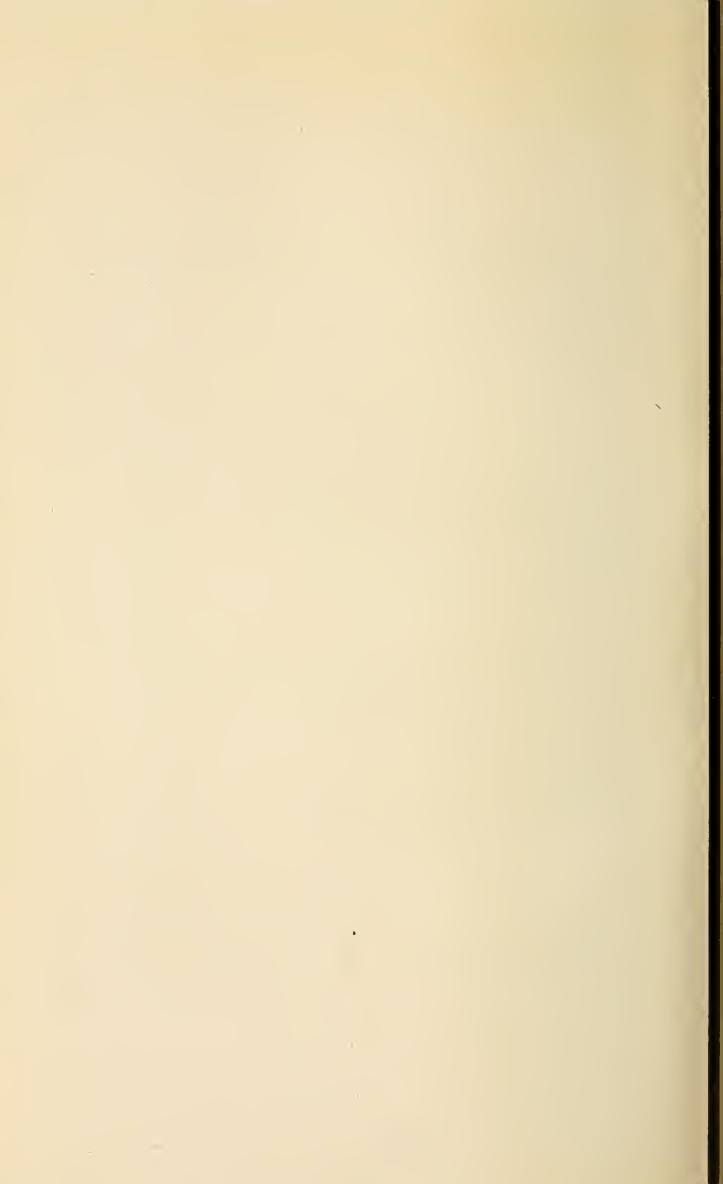
BONE AND ANTLER OBJECTS

For all ordinary small weapons and other implements, the Iroquois, whether Huron, Neutral, Seneca, Onondaga, or Mohawk, preferred bone and antler to stone; and indeed in Jefferson county, perhaps more than in any other portion of their ancient seat, they used these materials almost to the exclusion of stone. This fact has long been known to archeologists, and Beauchamp has particularly commented on it.³⁵ On the Algonkian sites examined by the writer in Jefferson county, including the pre-Iroquois camps on the Putnam farm and in adjacent fields, there is an abundance of

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	<p>large, dark flint, white quartz, and jasper flakes and implements, hence it was evidently not beyond the power of the ancient Onondaga to procure suitable stone for knives and arrows. Yet all the notable Iroquois collections from the county tell the same story—stone was used sparingly for artifacts. The efforts of the Museum's party and the previous digging of the Putnams on the site under discussion brought to light only four triangular points of black flint, whereas an Algonkian site of equal size would have yielded hundreds. Arrows of any kind indeed were not abundant, yet of the three hundred whole and broken implements of bone and antler recovered from the ash-beds, seventeen were projectile points.</p> <p><i>Awls.</i>—The most common implements of bone found on the Putnam site, as on most sites in the Iroquois domain, were bone awls (pl. XXI), of which seventy-seven entire specimens were found. So well known are these implements that detailed description is unnecessary. It may be mentioned, however, that the awls from the Putnam ash-</p>
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PREHISTORIC ONONDAGA BONE AND ANTLER IMPLEMENTS FROM JEFFERSON COUNTY
(Length of *j*, 8 $\frac{1}{4}$ in.)



beds are well made and highly polished, the "sliver awls" of the New York coastal Algonkian type being almost unknown. Many were cut from large bones by longitudinal grooving with a stone knife (pl. XXI, *a*); they also sometimes exhibit the striæ caused by dressing them to a point with stone scrapers. Very few have the natural joints left as handles; some are so dull as to suggest their use as punches, rather than as awls; and many were probably used as forks for taking food from kettles. Occasionally the delicate, long, hollow bones of birds, or the penis-bone of the raccoon, were used as awls. One of these is illustrated in pl. XXI, *b*, exhibiting the characteristic curve of the bone from which it is made.

Pottery Tools of Bone.—Next to bone awls, in point of number, are crude, flat, usually lanceolate bone objects, from four to six inches in length, which seem to have been used as potter's tools for shaping and smoothing the sides of vessels before firing. Of the forty-one specimens found, pl. XXII, *d-i*, show a fair series. Most are made of

splinters of bone worn into shape by constant usage; only a few seem to have been intentionally fashioned. Some have curving sides, as though to adapt them to the form of the vessels on which they were used; a few bear incised decoration on their flat surfaces. The writer does not recall similar implements from other Iroquois sites, although such may occur.

Arrowpoints.—As pointed out in one of the preceding paragraphs, arrowheads of bone and antler preponderate over those of stone from the Putnam site, seventeen having been found to six of black flint. Some of the bone points (pl. XXIII, *b-e*), which vary in length from 2 in. to 4 in., are in the shape of an elongate triangle, ground flat on one side, the other side remaining convex after the natural curve of the bone (pl. XXIII, *d, e*), the marrow channel being left open and somewhat cleared of its filling of cellular bone for the reception of the shaft. Some (*c-e*) are slightly indented at the butt; others have a round socket and resemble some forms of points made of native copper (pl. XXIII, *d*).



EARLY ONONDAGA GORGETS OF HUMAN SKULL (*a, i*), AND BONE AND ANTLER ARROWPOINTS, FROM
JEFFERSON COUNTY

(Length of arrowpoints, 2 to 4 in.)



The antler points (pl. xxiii, *b, f, g, h*) are primarily prongs of buckhorn, sawed off with a stone knife and hollowed at the base for attachment. They were either scraped to a slenderer girth than that of the original tine, or were fashioned into a flat-sided form approximating a diamond-shape cross-section. Such arrow-tips seem less common among the western Iroquois, who were well supplied with tiny, triangular forms of flint, but were known to the New York coastal Algonkians. In evidence of the prevalence of flint triangles on a Seneca site, it may be said that 1187 were found at Richmond Mills, N. Y., in contrast with only six bone tips.

Needles.—Needles of bone, of a narrow, lanceolate type, pointed at the ends and perforated in the middle, were found at the Putnam site, but they were uncommon, only three having been obtained. All of these were broken, as usual, at the eye, but an example from the Getman collection, probably found in an ash-bed of the site at St Lawrence, N. Y., is shown in pl. xxiv, *g*; it resembles the modern bone snowshoe

needles of the Middle Western and Northern tribes. The use of such needles seems quite general among the Iroquois, and was known also to the tide-water

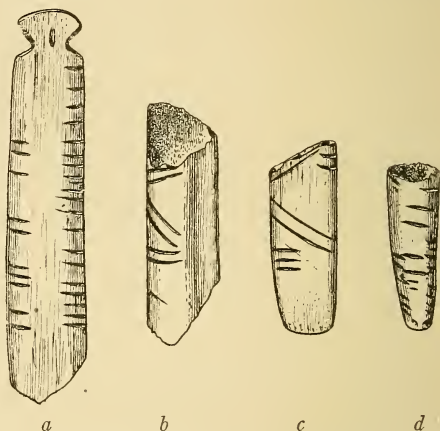


FIG. 32.—Engraved bone tools from Putnam site, Black River, Jefferson county. (Length of *a*, $2\frac{1}{2}$ in.)

Algonkians, at least during the period of Iroquois influence.

Animal Teeth.—Worked teeth of mammals, split lengthwise and ground flat on the broken surface, were found to the num-

ber of fifteen. Of the five recovered, four were canine teeth of the black bear, and one of the beaver. Possibly they were for smoothing pottery.

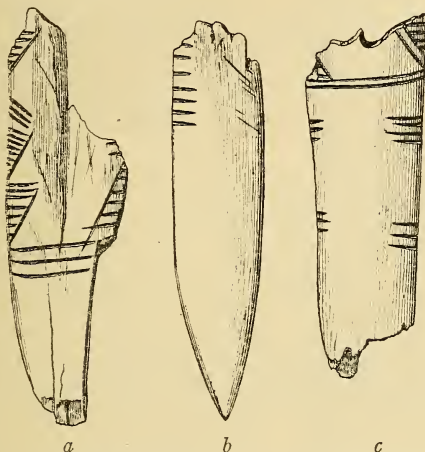


FIG. 33.—Engraved bone tools from Putnam site, Black River, Jefferson county. (Length of *a*, $2\frac{3}{8}$ in.)

Engraved Objects.—Seventeen bone tools of various kinds, with flat surfaces, were found to have been engraved with various patterns, as shown in the representative series

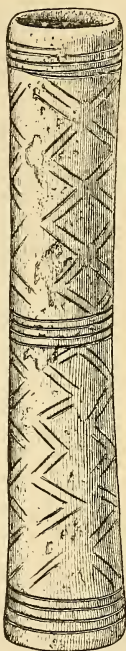
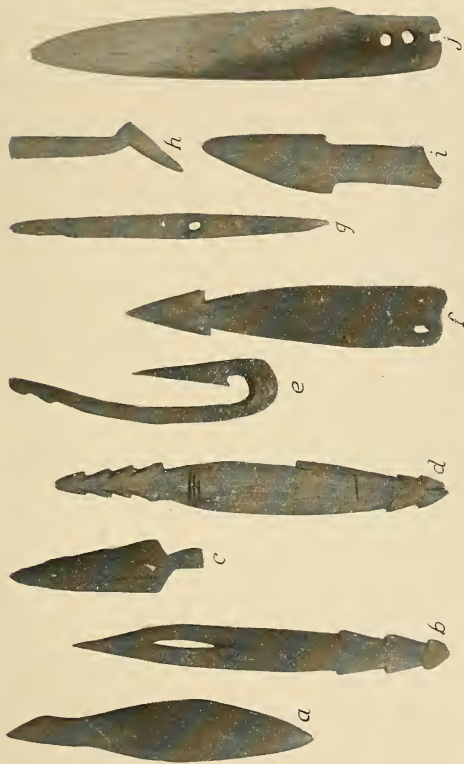
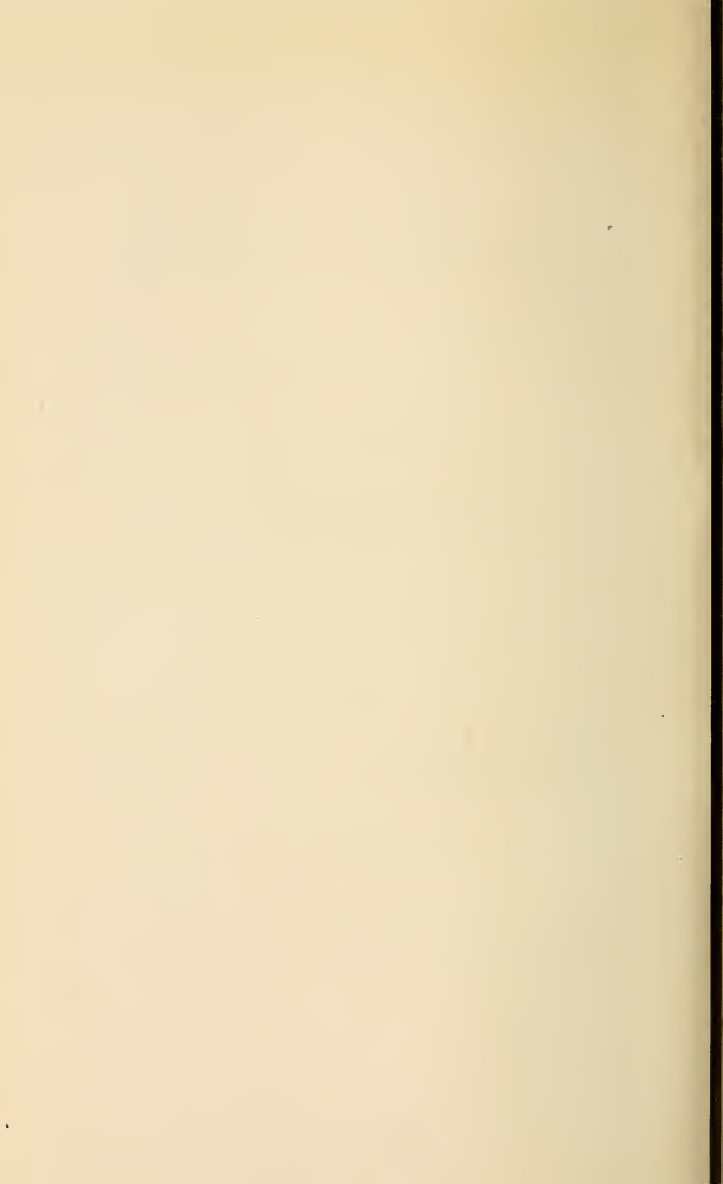


FIG. 34.—Engraved tube from Rutland hills, Jefferson county. (Height, $7\frac{1}{2}$ in.)

illustrated in figs. 32, 33, and pl. xxv. The designs vary from groups of lines, possibly intended as counts or tallies, to neatly executed chevron figures, similar to those found on the local pottery. Most of the engraved bones have had pigment of some kind, probably soot, rubbed into the incisions. Engraved bone implements other than beads, tubes, and combs, are not common outside of Mohawk-Onondaga territory, but such are abundant in the Museum's collection from Neutral sites in Canada and Cayuga sites in New York. The writer has found some objects of this class on Manhattan Island, an Algonkian area under Mohawk domination.



EARLY ONONDAGA BONE IMPLEMENTS FROM JEFFERSON COUNTY
(Length of *b*, 3½ in.)



The most remarkable specimen of engraved bone obtained by the expedition is the cylinder shown in fig. 34, which was plowed from a site in the Rutland hills. The material seems to be part of a human femur and the object measures $7\frac{1}{2}$ in. in length. The design consists partly of a linked diamond figure. Nothing quite similar to this remarkable artifact from Iroquois territory has yet been brought to the attention of the writer.

Harpoons.—A bilateral bone harpoon, provided with three barbs, was found by Mr Putnam, who presented it to the Museum. The shank is pointed and highly polished, while a longitudinal slot has been grooved through the implement near the base, suggesting that the harpoon may have been loosely attached to a socketed shaft by means of a thong and toggle. This little implement, which is $3\frac{1}{2}$ in. in length, is shown in pl. XXIV, *b*, while *d* represents a somewhat similar but double-ended example, lacking the perforation, from the St Lawrence site. No doubt such bi-pointed harpoons as this latter were fitted into a

socket in the shaft, and, if the striking end became dulled, were quickly reversed. Such implements are fairly common in Jefferson county, but not elsewhere within the Iroquois range.

Pl. xxiv, *f*, illustrates a bilaterally barbed harpoon from one of the sites in the Rutland hills. Later central Iroquois harpoons, at least, tend to be unilateral, single-barbed, and are thicker and far heavier than this specimen; they are also more likely to be of antler. Among the Algonkian tribes which inhabited the interior of New York state, bone harpoons, both bilateral and unilateral, were in frequent use, whereas on the seacoast, where the presence of such implements in numbers would be expected, they are almost unknown. One specimen, evidently suggested by the unilateral single-barbed form, in use among the Iroquois, was found by the writer on Manhattan Island.

Beads.—A single bead, made of a section of hollow, cylindrical bone, sawed off at both ends and polished, was found at the Putnam site, but fragments of one or two

other beads of this kind were unearthed, and several knuckle-ends of hollow bones, sawed off in bead-making, were gathered. Generally bone beads are far more abundant on Iroquois sites. In prehistoric Onon-



FIG. 35.—Perforated phalangeal bone, from Jefferson county. (Actual size.)



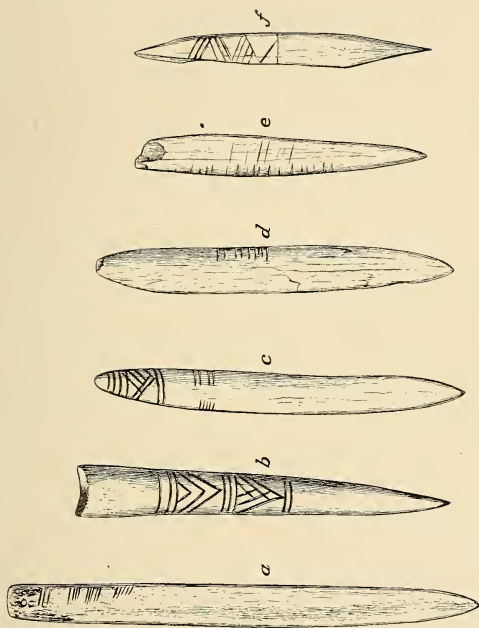
FIG. 36.—Rubbed phalangeal bone from Jefferson county. (Actual size.)

daga territory disc beads of steatite seem to have been the favored kind.

Jinglers.—Four phalangeal bones of deer cut off at the proximal end and perforated

at the distal end as though for suspension, were gathered from the ash-beds. One of these is shown in fig. 35, and with it another phalanx rubbed flat on the opposing faces (fig. 36), taken from a site in Rutland hills, not far away. These phalangeal bones may have been units of the cup-and-pin game, but on the other hand in modern times they are used by the Iroquois as jinglers, and for this purpose vie in popularity with the horny part of the deer's hoof, especially for knee- and ankle-rattles. The Iroquois have always been fond of such devices, as is shown by their liking for conical metal jinglers in colonial times. The ground deer's phalanx, shown in fig. 36, is of no known use, unless it served as a die in some gambling game. While generally abundant throughout Jefferson county, no ground phalangeal bones were found at the Putnam site.

Miscellaneous Objects.—A few artifacts of bone found at near-by Jefferson county sites, but for the greater part not on the Putnam farm are shown in pl. xxiv.



ENGRAVED BONE TOOLS FROM PUTNAM SITE, BLACK RIVER,
JEFFERSON COUNTY

(Length of *a*, 5½ in.)



Pl. xxiv, *h, i*, show two broken objects of unusual types from a site in St Lawrence. Such problematical forms have occurred sparingly on Onondaga sites. Arrow-like implements, cut from flat bone, from sites in the Rutland hills, are figured in the same plate, *a, c*. A large, flat, needle-like tool, with three basal perforations, from the Putnam farm, is shown in *j*, while a barbed bone fishhook found by Dr Getman at St Lawrence is shown in *e*. This hook is one of the finest specimens of its kind known, and is figured and described by Beauchamp in his paper on "Bone Articles of the New York Aborigines."³⁶ Although the more common, barbless form was used by the Algonkians of the interior in New York, curiously enough bone fishhooks are as little known on the coast as are the harpoons. One was found in a shell-pit at Clasons Point, New York City, by the writer.³⁷

Pl. xxiii, *a*, represents a gorget made from a circular piece cut from a human skull. This ornament, which was found by Dr Getman at St Lawrence, is highly polished and possesses, even in its present

fragmentary condition, six perforations, one of which is considerably worn, perhaps by the friction of the string by which it was suspended. There are traces of a rude, incised, zigzag decoration on the smooth, convex surface, but the venation has been worn or ground away from the inner, concave side. No doubt such gorgets were valued war trophies. Pl. XXIII, *i*, illustrates an unfinished example, from the Rutland hills, which has merely been shaped, not smoothed or bored. The skull gorgets are more abundant on eastern Iroquois sites than elsewhere, and are especially common in Jefferson county, though none were encountered on the Putnam farm. They seem never to have been used by any of the Algonkians.

Two hock-bones of deer, the ends showing wear which may have been caused by their use as flint-working tools, are shown in pl. XXII, *b*, *c*. The natural shape of these bones adapts them admirably for this purpose, yet it should be borne in mind that nearly all bone tools were susceptible of numerous uses at the will or the necessity

of the native owner, and that our classification is necessarily arbitrary.

Antler Objects.—Two blunt, wedge-shape objects, made of antler tines ground at the tips, were obtained. Their use is problematical, unless it may have been as pottery gravers. Pl. XXII, *a*, represents an antler prong, interesting because of three small, conical holes bored partly through one side, near the base, and *j* of the same plate shows a prong sharpened at the front by grinding into longitudinal facets. The tine has been whittled and split away until it is flat on one side, and a perforation has been made near the end. The form is reminiscent of the hafting of certain gaff-hooks among the Copper Eskimo of today, collected by Mr Cadzow, of the Museum of the American Indian, Heye Foundation.³⁸ The implement, which is unusual in shape, is possibly a dagger or a pike-head, yet it may have served as a punch. It was found in the Rutland hills. Pike-heads made of hollowed deer-antler and fastened to a wooden shaft by means of a bone or an



FIG. 37.—Antler measure, from Jefferson county. (Actual size.)

antler pin, have been reported from Seneca sites; they are, however, rare.

Fig. 37 shows an antler-tip hollowed out for a measure, perhaps for medicines, and perforated for suspension, from a site in the Rutland hills. Similar objects are still used among the Central Algonkian and Southern Siouan tribes as medicine or powder measures.

Summary.—A summary of the types of bone and antler articles found at the Putnam site may be of interest. The specimens include seventy-seven entire awls of the usual types, and one made of the penis-bone of a raccoon; eighteen decorated bone tools of



PREHISTORIC ONONDAGA POTTERY JAR FROM THERESA,
JEFFERSON COUNTY

(Height, $10\frac{1}{4}$ in.)



all varieties; seventeen bone or antler arrow-points; ten beads, jinglers, etc.; forty-one pottery tools; three perforated needles; fifteen worked animal teeth; one harpoon; eight miscellaneous articles; and one hundred and twenty broken and indeterminate objects, probably mostly awls—three hundred specimens in all. Of course local collectors have carried off numerous artifacts, and others have been broken and destroyed by plowing.

Although Jefferson county is a locality where simple combs with few teeth, of prehistoric Iroquois type, are to be expected, none were obtained at the Putnam site, nor are there any in the Museum's collection. They are not at all abundant, and indeed need scarcely be looked for in numbers from refuse-heaps and ash-beds.

POTTERY

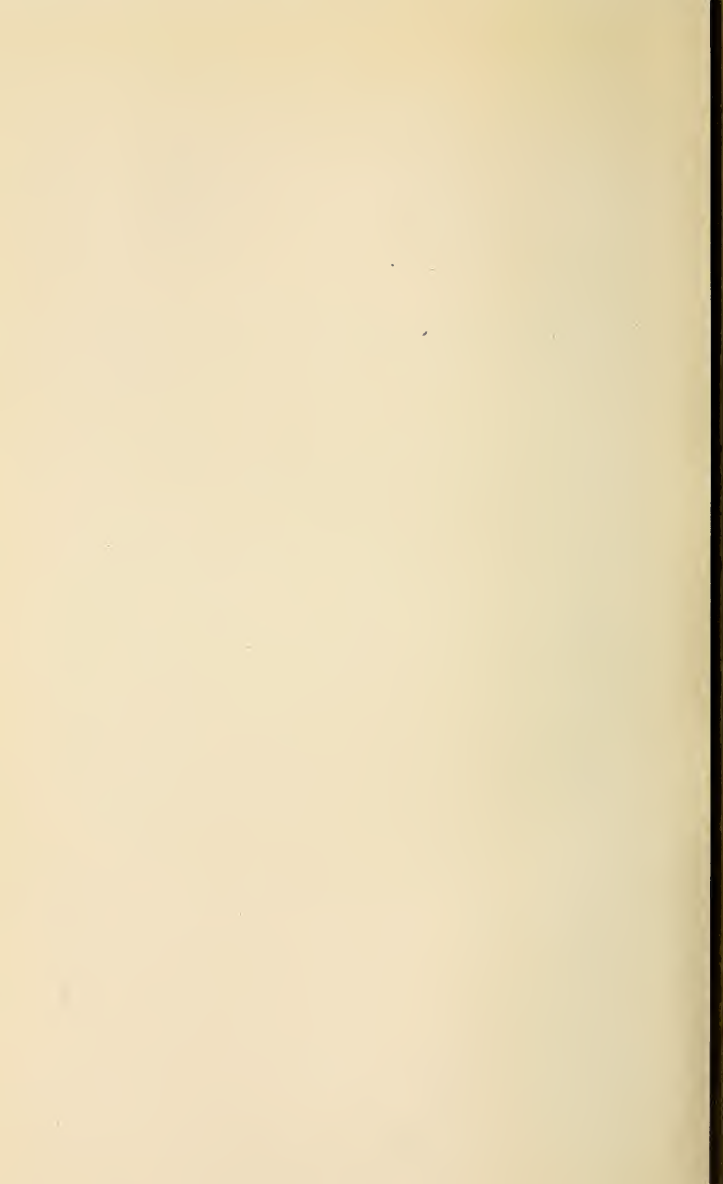
The pottery vessels of the Onondaga of Jefferson county have been preëminent among Iroquois earthenware. With the jars of the Oneida and the Mohawk, those of the St Lawrence in Canada and the

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	<p>western Vermont region, they form an eastern group as compared with those of the central and western Iroquois—the Cayuga, Seneca, Erie, Neutral, Wenro, Andaste, and perhaps the Huron and the Tionontati.</p> <p>Typical eastern Iroquois jars from Jefferson county are represented in pls. xxvi, xxvii. They possess the distinctive rounded bottom, constricted neck, and heavy, overhanging, ornamented collar. While it is not our immediate purpose to consider the subject in detail, the outlines given in fig. 1, from entire specimens or fragments in the Museum's collection, will afford an idea of several leading forms.</p> <p>For the contrasting forms of vessels of the central and western Iroquois the reader is referred to pl. i-iv, which show outlines of jars in the Museum's collection. The western pots are short, round, and squat, often with a narrow, notched rim, although forms approaching the eastern group are sometimes found, especially on earlier sites.</p> <p>In common with all Iroquois sites in the adjacent region, the Putnam farm yielded a very large number of sherds. Every ash-</p>
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PREHISTORIC ONONDAGA POTTERY JAR FROM THERESA,
JEFFERSON COUNTY

(Height, 8 in.)



bed teemed with fragments; during the month which the Museum's party devoted to the investigation, probably as many as five bushels were unearthed. Hundreds of decorated pieces had been found and carried away by previous collectors. Mr Putnam himself at one time had a grain-sack full of choice rim-sherds which he gave away.

Indeed, so abundant were the earthen vessels that it is apparent that the natives of this village at the Putnam site never took the pains to mend cracked vessels by boring holes at opposite sides of the fracture and lacing them together with thongs, a practice followed by the Algonkians everywhere in the state. At any rate, among the many thousands of sherds recovered, not a single bored specimen was found.

It is also notable that seldom were any number of pieces of the same jar collected. Even in undisturbed ash-beds, it was the exception to find many pieces that fitted. As a typical example, of hundreds of rim-sherds found in the course of one after-

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<p>.</p>	<p>noon's digging in an untouched hillside dump, not more than a dozen could be pieced together, and these represented several different jars. This postulates an immense quantity of pottery in constant use among the inhabitants, and suggests that, after breakage, the fragments presumably lay about the lodge, being played with and in part destroyed or lost by children, and that ultimately such as remained found their way to various middens—seldom all to the same one. Whole jars are rarely found in Jefferson county. On breaking new land Mr Putnam once plowed out all the pieces of a vessel that had been abandoned, bottom up, in an ash-bed, but which still covered animal bones. This discovery aroused his interest, but, as he was unable to obtain advice or help from any local collector, the jar lay on the surface until it disintegrated. The number of receptacles represented by the thousands of sherds unearthed is impossible to determine, but doubtless they formed parts of several hundred vessels.</p> <p>In color the earthenware from the Putnam site, like all the specimens from Jef-</p>
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ferson county, ranges from bright yellowish-red to black. No sizing material was used, and the only traces of painting were some broad parallel bands of black found on a few potsherds of a single vessel. For tempering the clay of which the utensils were made, burnt and granulated stone was used. No examples of shell-tempering were found, and there are none in the Museum's collection from Jefferson county. Judging by the fragments, the coil process was commonly in vogue.

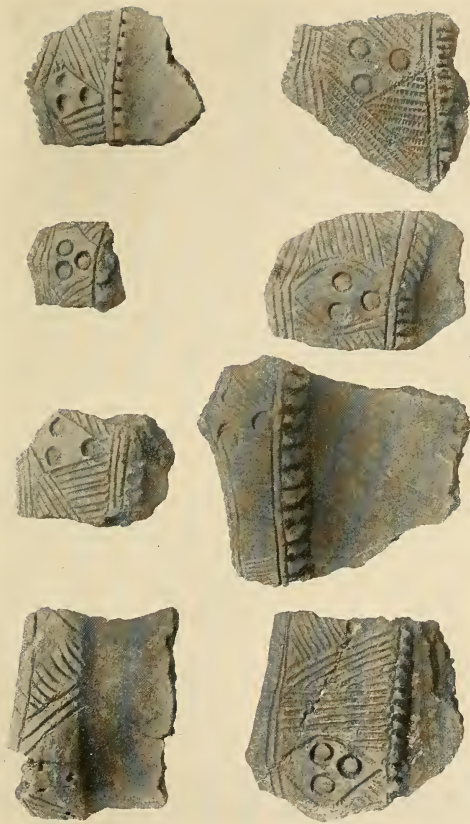
An entire pottery jar, found in a crevice in the rock talus near the bank of Indian river, in the village of Theresa, Jefferson county, is represented in pl. xxvi. It was found by Mr Arthur Dewitt Howland, who a short time afterward procured the vessel shown in pl. xxvii from another crevice not many yards away.

The larger jar (pl. xxvi) is $10\frac{3}{4}$ in. high and 8 in. in diameter at the mouth. In color it is light terracotta mottled with black. The outside is fabric-marked, probably with a paddle wrapped with textile, but the inside is smooth and jet-black.

The tempering is fine, sharp sand. Both this specimen and that next to be mentioned were covered with a white lime-like powder when discovered.

The second pottery jar from Theresa is figured in pl. XXVII. It is smaller than the preceding example, being only 8 in. high and 6 in. in diameter at the mouth. Its color, general appearance, and tempering are similar to the larger vessel, but it is less symmetrically formed, though more ornately decorated. The serrated lower angle has the spaces between the usual notches exaggerated into projecting nodes.

No Iroquois site at Theresa has been recorded, the two vessels being stray finds. Oddly enough, a third entire jar, now in possession of the New York State Museum at Albany, was found under similar circumstances in the same village, not far away, by Mr Percy Purdy.³⁹ These three receptacles are the only entire large vessels of pottery from Jefferson county known at present, although the ware was never excelled by Indians of the New England or Middle Atlantic areas. Fragments of many jars of



ONONDAGA RIM SHERDS SHOWING CONVENTIONAL HUMAN FACES, FROM PUTNAM SITE,
BLACK RIVER, JEFFERSON COUNTY



similar pattern were obtained, not only from the Putnam site, but throughout the region under examination.

Pl. xxviii-xxxvi, and fig. 38, represent sherds of the rims of receptacles found on the Putnam farm. It will be observed that

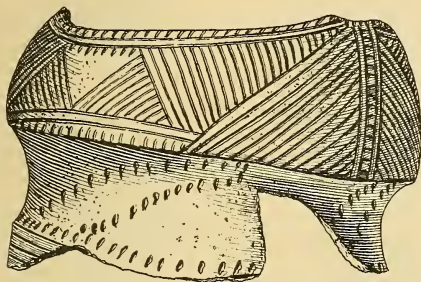


FIG. 38.—Rim sherd of a prehistoric Onondaga pottery jar from Putnam site, Black River, Jefferson county. (Diameter, $3\frac{1}{4}$ in.).

the conventional human face (pl. xxviii, xxix) is commonly used as a decorative motive. The same curious conventionalization may be observed incised on the gorget shown in fig. 52, *a*, from the same site. It is odd that in almost all such forms from

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	<p>Jefferson couny, only the mouth and the eyes are indicated. •</p> <p>Pl. xxx-xxxvi show potsherds ornamented with the ordinary chevron groups of incised lines, common on eastern Iroquois sites, and pl. xxxiv-xxxvi, show similar figures produced by pressure on the plastic clay with a roulette or a cord-wrapped stick, a technic much less common in Iroquois than in Algonkian ware. The designs are always in angular, geometric patterns, are unlimited in variety, and, if the conventional faces be excepted, show no trace of symbolism.</p> <p>The bosses produced by pressure from within, so often found on Algonkian pottery of western New York, are absent, and the realistic human faces in relief, luted on later Iroquois jars, are not found on specimens from the Putnam site, although one is in possession of Mr William A. Moore, of New Rochelle, N. Y., which was dug by him from an ash-bed on the Colligan site, in the Rutland hills, not far away.</p> <p>It seems strange that the ancient Onondaga potters were limited to conventional</p>
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ONONDAGA RIM SHERDS SHOWING CONVENTIONAL HUMAN FACES, FROM PUTNAM SITE, BLACK RIVER, JEFFERSON COUNTY



patterns for their jars, when there was apparently no limit, beyond their personal skill, to the realism applied to their terra-cotta pipes. Possibly this is due to the fact that the vessels were made by the women, and the pipes by the warriors.

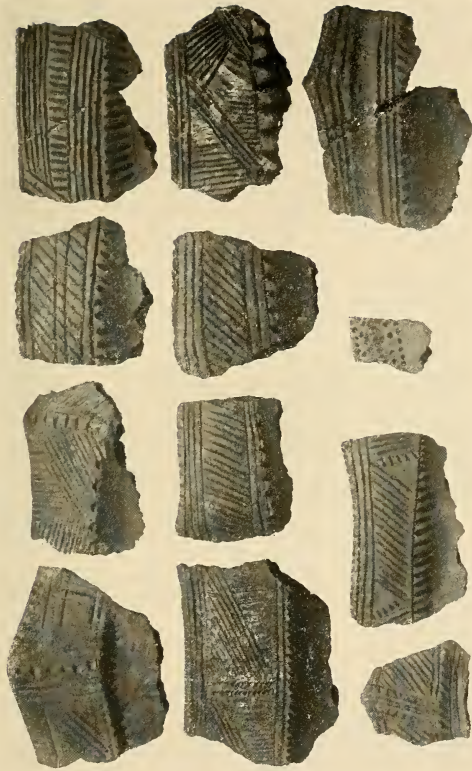
Among the miscellaneous pottery objects found at the Putnam site were two beads, a pipe-stem reworked as a bead, and a small, crude disc.

PIPES OF POTTERY

The Iroquois earthenware pipes of New York and Canada are the best known in America, and those of Jefferson county are preëminent among their kind. Made by master craftsmen, they present an almost unending variety, for, except in a few cases, the prehistoric Onondaga had not settled down to the conventionalized types which long survived among the other Iroquois after the coming of Europeans, but allowed full play to their fancy. Geometric forms or effigies—human, mammal, bird, reptile, batrachian, and crustacean—are found, with others which in design seem to

point to purely mythological concepts. They vary in color, but tend to be light reddish-brown, sometimes mottled with black. The highly polished, black forms of the western Iroquois tribes are unknown. It was the attractiveness of these pipes which, beyond all else, made collecting so alluring to curiosity seekers, and that led to the ransacking and looting of almost every Iroquois site in Jefferson county as soon as it was discovered. Numerous as these pipes once were, they have been so eagerly sought that they are now among the rarest of all articles in the region. Found only in ash-beds, and not in graves (for the Iroquois occupancy of Jefferson county antedates the period of sepulchral deposits among that people), the pipes obtained are nearly always fragmentary. Those in the collections seen by the writer have, with few exceptions, been more or less "restored" by the finders, and the accuracy of the work may sometimes be questioned.

In accordance with expectations, the Putnam site yielded many earthenware pipes, one hundred and ninety-one whole



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BLACK RIVER, JEFFERSON COUNTY



and fragmentary specimens in all. Of the total number, sixty-six fragments are insignificant, but there are forty-seven bowls and fifty-eight stems, mostly of the common undecorated trumpet form. Sixteen fragments are ornamented, or are parts of effigy pipes. Only four specimens were virtually entire. A selection of these pipes is shown in pl. xxxvii, of which most of a plain, mottled, brown, trumpet pipe is represented in *d*, the bowl of which was found by Mr Putnam and the stem later discovered by one of the Museum party. The type is the most common conventional form from Jefferson county, and is probably Pan-Iroquoian, for the writer has found portions of similar pipes in Cayuga county, and a variant on an Andaste site at Athens, Pa.

A pipe of unusual form is presented in pl. xxxvii, *f*, and fig. 39, *a*, an elaborate ornamented variant of the trumpet type, with a suggestion of the kind in which the bowl is made in imitation of a pottery jar. The former clay stem, in one piece with the bowl, has been broken off, but so highly did the aboriginal owner

prize the latter, that he smoothed the broken end, plugged the original hole, and bored another and larger one to receive a stem of reed. It may be noted that about

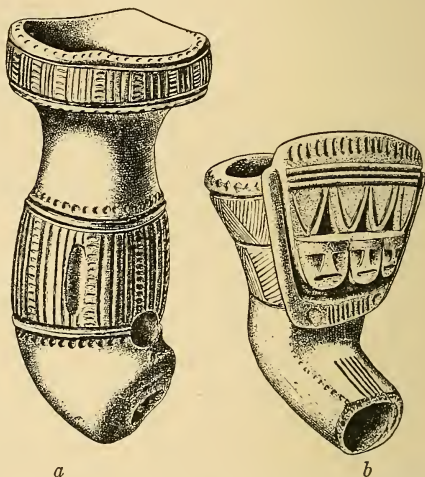
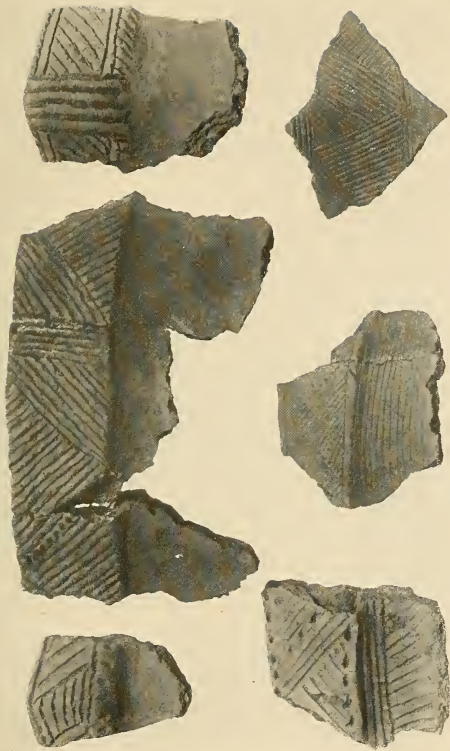


FIG. 39.—*a*, Trumpet pipe-bowl; *b*, Bowl showing shield bearing three faces; from Putnam site, Black River, Jefferson county. (Height of *a*, 4 in.)

half the rim had been broken off, and was missing when the bowl was found, to be discovered later, nearly ten feet away, in an



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ash-filled crevice under a boulder, where it had been washed. The ornamentation of this specimen consists of a border of incised, vertical bars around the rim, interspersed with short, stamped, horizontal lines which seem to have been pressed in the clay while still soft, by means of a bone or a wooden tool. The under-edge of the rim is notched, and the upper edge has four peaks, both of which features are characteristic of the pottery jars of the Iroquois. The narrow neck below the rim, or collar, is plain, but there is an expanded girth beautified by a border, nearly an inch and a half in depth, of somewhat oblique vertical lines pressed in the clay alternating with the same kind of short horizontal dashes as on the rim. The upper design of this border consists of two encircling lines surmounted by a row of punctate dots. The lower edge has the same figure, but with only one encircling line.

On the left side of the bowl a deep slot, three-quarters of an inch long, breaks the design. Its reason is not obvious, but the feature is one common to Iroquois pipes. In some cases, though not in this instance,

these slots may have been meant to receive an inlay. The pipe is four inches high.

A small pipe, found and presented by Mr Putnam, is represented in fig. 39, *b*. The design is that of a shield, facing the smoker, in outline roughly like an inverted truncated cone. The shield bears three human faces cut in relief, their heads surmounted by conventional figures possibly representing plumed head-dresses. The clay stem was broken in two by the native owner and re-bored to receive a tube of wood or of reed. The back of the bowl bears two zones of incised chevron patterns, scratched in delicate lines. There is a similar specimen (fig. 20) in the Museum collection which came from the vicinity of Montezuma, Cayuga county.

Another and larger specimen, slightly restored, is in the collection of Mr C. P. Oatman, of Liverpool, N. Y. It was found in Jefferson county, in the Rutland hills, and shows three faces, including head-dresses.

Fig. 40 represents a bowl broken from a very small ornamented pipe which bears



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incised decoration with the three circular dots so often employed to symbolize the human face on jars. These are also reversed in some of the panels on this specimen. The pipe was found in a deep ash-bed, part of a hill-side dump, near the edge of Ostrander's creek on the Putnam farm.

A trumpet-shaped pipe from the Getman collection, probably from St Lawrence village, is figured in pl. xxxvii, *c*. It differs from most specimens in that the mouth-piece is contracted and narrow.

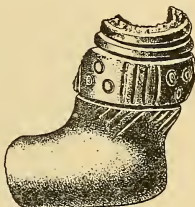


FIG. 40.—Small pipe from Putnam site, Black River, Jefferson county. (Actual size.)

A fragment of the bowl of an angular pipe bearing incised decoration, found by the writer in an ash-bed on the St Lawrence site, is shown in fig. 41; and fig. 42 illustrates a pipe-bowl of clay encircled by a series of raised, ring-like ornaments, from the Colli-gan farm site in the Rutland hills. Fig. 43-47, representing specimens from the Putnam site or its vicinity, show typical

Jefferson county Iroquois pipe-bowls of ordinary styles.

Fig. 48 indicates a broken pipe-bowl of anomalous form, found by Dr Blackie in an ash-bed on the Putnam farm site. It is in such fragmentary condition that its former

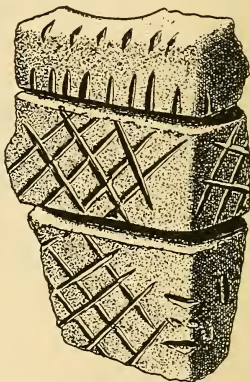


FIG. 41.—Fragment of an angular pipe-bowl from St Lawrence site, Jefferson county. (Actual size.)

appearance cannot be determined, except that it was rather profusely decorated with incised chevron and herring-bone patterns. Possibly this pipe was merely a clay bowl furnished with a separate reed stem.

STONEWORK

Stone being little used by the early Onondaga, few artifacts of this material came to light at the Putnam site. Several flint

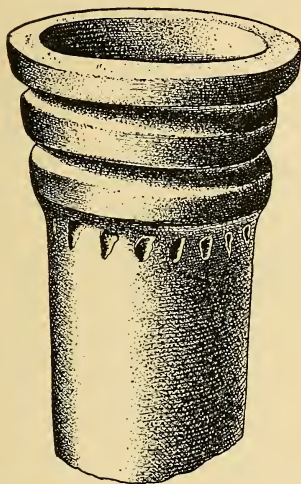


FIG. 42.—Ring bowl pipe from Colligan site, Rutland hills, Jefferson county. (Actual size.)

arrowheads of the common Pan-Iroquoian triangular form were, however, found, and one notched point of the same material.

The latter was probably intrusive, as it is of a type not made nor used by the early Iroquois people, and came perhaps from some roving band of Algonkian hunters, the site of one of whose camps, known by its stemmed arrowheads, is only a short distance away.

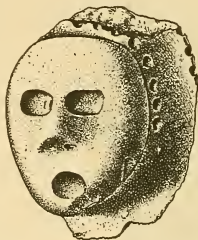


FIG. 43.—Fragment of a terracotta pipe from Putnam site, Black River, Jefferson county. (Actual size.)

Not a single stone mortar was obtained, although several mul-
lers were found, as well as some pitted hammers. Of celts, the only axe of the Iroquois, a number were collected and others were reported by Mr Putnam. All are of a hard black stone

susceptible of taking a good polish and a keen edge, and as usual on Iroquois sites, a considerable variation in size was observed among them.

Pipes.—Pipes of stone were by no means so common as were those of clay, but a perfect example of polished black steatite found

not far away, near Black River village, is shown in pl. xxxvii, *b*. Although its shape approaches some of the clay forms of which certain writers have doubted the manufacture before the advent of metal tools, this



FIG. 44.—Fragment of a terracotta pipe from Jefferson county. (Actual size.)

is undoubtedly a prehistoric pipe. The maker must have experienced no little difficulty in boring the stem by primitive means. An unfinished specimen of simi-

lar appearance, which came likewise from the Putnam site, is shown in pl. xxxvii, *a*. In this example the perforation has barely been commenced, apparently with a stone drill. Pl. xxxvii, *g*, and fig. 49 illustrate a similar, but diminutive, pipe from St

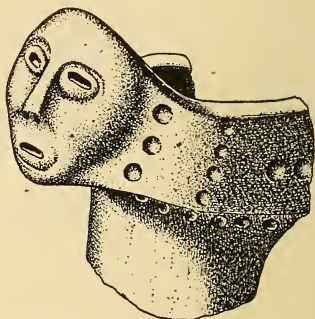


FIG. 45.—Fragment of a terracotta pipe from Jefferson county. (Actual size.)

Lawrence. These tiny pipes, both in clay and in stone, are not infrequent elsewhere in the Iroquois territory, but are a special feature of Onondaga archeology.

An interesting effigy-bowl pipe is represented in fig. 50, collected in northern New



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York, probably in Jefferson county, and presented by Harmon W. Hendricks, Esq., a trustee of the Museum. The material is a dark, mottled steatite, well polished, and the bowl formerly possessed a stone stem, which was broken. This fracture was

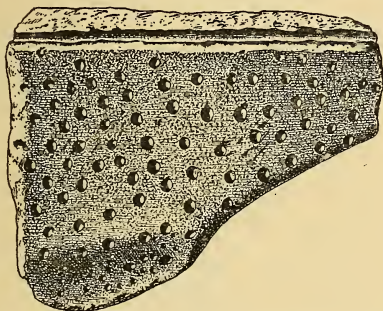


FIG. 46.—Fragment of a terracotta pipe from Rutland hills, Jefferson county. (Actual size.)

ground down by its native owner, who later re-bored the bowl to receive a reed mouth-piece. It has a perforation also in the base for the attachment of a thong. The carved head, which faced away from the smoker, an unusual feature, may have been intended to

represent an old and ferocious snapping-turtle (*Chelydra serpentina*) with open jaws. Pipes of this type, while rare, are more commonly seen west of the Mohawk-Onondaga country.

A remarkable pipe, carved of Huronian slate, representing a long-tailed animal

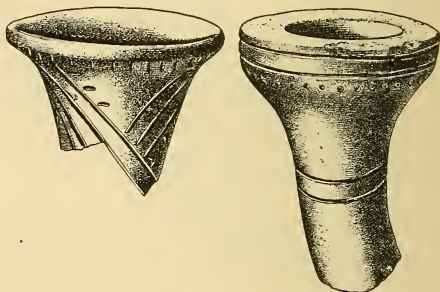


FIG. 47.—Fragments of terracotta pipes from Jefferson county. (Diameters, 2 in., $1\frac{3}{4}$ in.)

curled up in the act of climbing its own caudal appendage, has been found on Dry hill, near Watertown, in Jefferson county. This type is rather widely spread among the Iroquois of the western group.

Beads.—Twenty-five stone beads were found in the ash-beds. In fig. 51, *a*, *b*, will

be seen two ordinary discoidal beads of polished steatite. Fig. 51, *c*, represents an unusual specimen which seems to be part of the stem of a soapstone pipe, deeply scored in several places in the process of cutting it into sections intended to serve as beads.

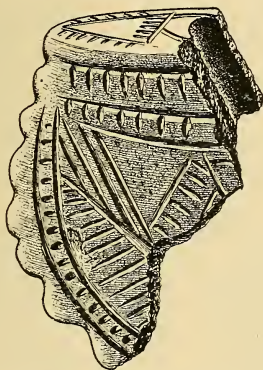


FIG. 48.—Fragment of a terracotta pipe from Putnam site, Black River, Jefferson county. ($\frac{3}{4}$.)

Soapstone beads, with crinoids, small naturally perforated concretions, and shell disc-beads, examples of all of which were found at the Putnam site, seem to have been preferred by the Jefferson county

Onondaga to the bone beads elsewhere held in such high esteem among the Iroquois.

Effigy Gorgets.—Among the specimens presented by Mr Putnam are two broken effigy gorgets, of which fig. 52, *a*, represents the larger and better-made example. It is of purplish-red shale, and seems to have

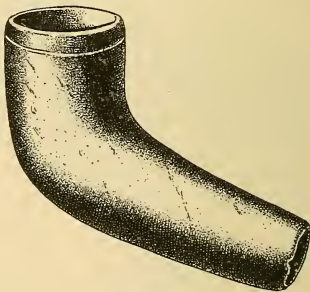
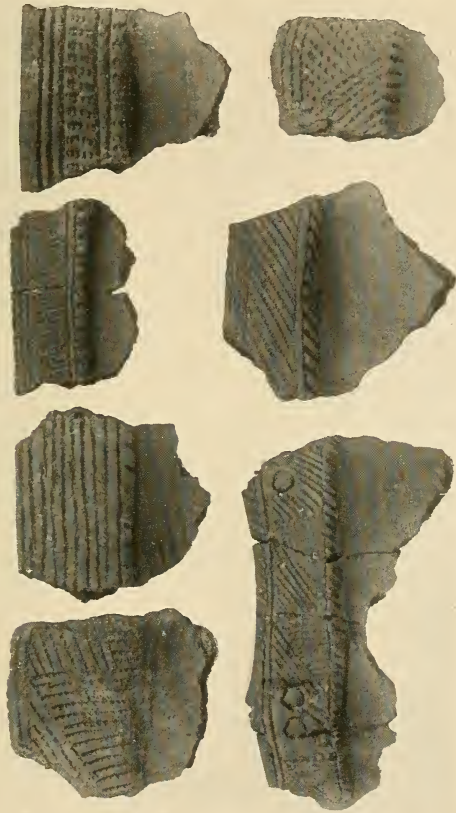


FIG. 49.—Stone pipe from Jefferson county. (Actual size.)

been oval in shape, with a central perforation, across which it was broken. On both sides are conventional human faces enclosed in a figure composed of double horseshoe-shape lines. The cutting is deep and seems to have been done with a stone tool. The faces, which are typically Iroquois in de-



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sign, are similar to those found on the angles of local pottery jars. The eyes and the mouth are indicated, but as usual no attempt has been made to portray the nose. In its broken condition the specimen measures two inches in height.

Fig. 52, *b*, represents a small, flat pebble, perforated at the upper end for suspension. A face is rudely scratched on one side; eyebrows, eyes, and nose or bill are indicated, but it is impossible to say whether the portrait is intended to be that of a human being or of an owl.

Summary.—A recapitulation of the stone articles gathered at the Putnam site shows that of the sixty-three specimens found, thirteen are small, entire steatite beads, and seven, also beads, broken in process of manufacture, of the same material, making twenty in all. To these should be added five beads made of crinoids or of naturally perforated stones. An elongate pebble, perforated and drilled at one end, which seems to have seen service as a whetstone, was unearthed. Thirteen celts, two gorgets, seven flint arrowpoints, of which one only

was stemmed, the rest being triangular, were obtained. Seven hammerstones and mullers, but no mortars were found. Six

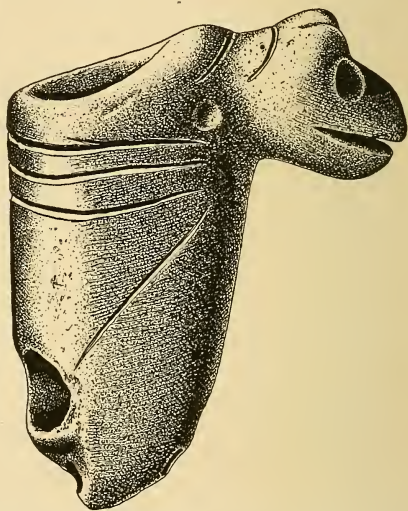
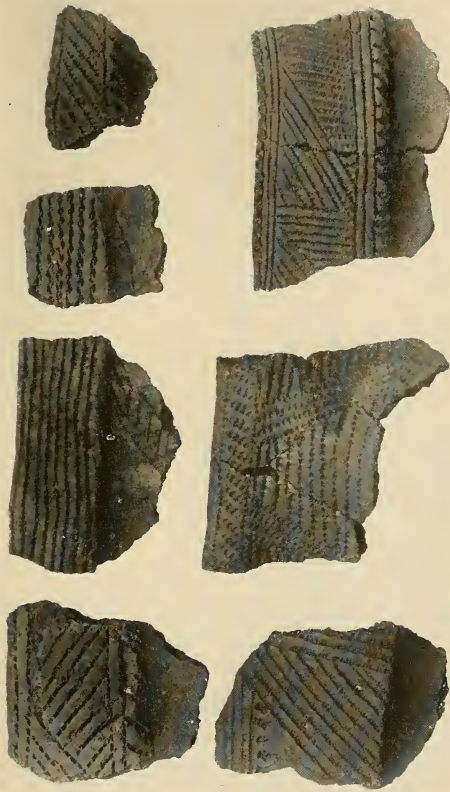


FIG. 50.—Stone pipe-bowl from Jefferson county. (Actual size.)

flint scrapers, five whetstones, and three stone pipes also came from the site.



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FOODSTUFF

In the ash-beds on the Putnam site were found beans, corn, squash-seeds, hickory-nuts, butternuts, and pits of the wild plum. The use of tobacco may be inferred from the numerous pipes and pipe fragments recovered. A list of the animals used as food, so far as it has been possible to identify them

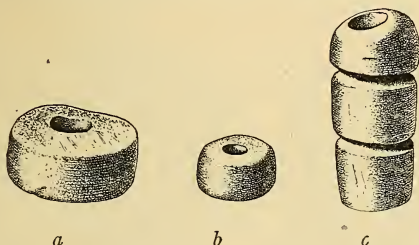


FIG. 51.—Beads in process of making, from Putnam site, Black River, Jefferson county. (Actual size.)

from bones and fragments found, was prepared through the kindness of Captain H. E. Anthony, of the American Museum of Natural History.

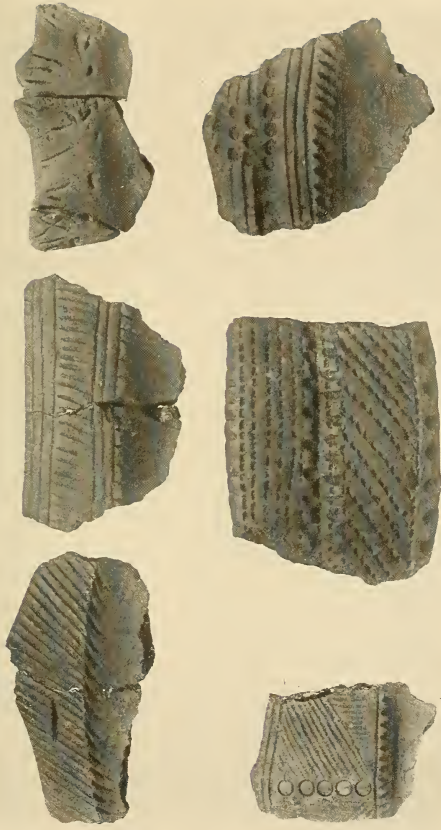
Animals Used as Food

Virginia deer,	<i>Odocoileus virginianus</i> ,
Elk,	<i>Cervus canadensis</i>
American bison,	<i>Bison americanus</i>

Black bear,	<i>Ursus americanus</i>
Porcupine	<i>Erethizon dorsatum</i>
Raccoon,	<i>Procyon lotor</i>
Marten,	<i>Mustela americana</i>
Otter,	<i>Lutra canadensis</i>
Woodchuck,	<i>Marmota monax</i>
Muskrat,	<i>Ondatra zibethica</i>
Beaver,	<i>Castor canadensis</i>
Skunk,	<i>Mephitis hudsonius</i>
Weasel,	<i>Mustela novaboracensis</i>
Dog,	<i>Canis familiaris</i>
Pig (domestic),	<i>Sus scrofa domestica</i>

The only remarkable species discovered were the bison, rare so far north and east, and the domestic pig. The bones of the latter were found by the writer in the ash-beds, but as nearly all of these had been plowed, it is possible that the bones could have found their way there in recent times. As stated elsewhere in this article, no other traces of contact with Caucasians have been noted at this site, nor indeed at most of the neighboring sites. If the bones were deposited in the refuse-heaps in Indian times, an interesting course of speculation is open.

In a letter to the writer, Mr S. C. Bishop, of the New York State Museum, states that,



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although the bison bones are not of a fossil character, they are of interest because they give evidence of a former wide distribution of the species in New York. As the toe-bones and the teeth have not been worked and show no signs of having been used in

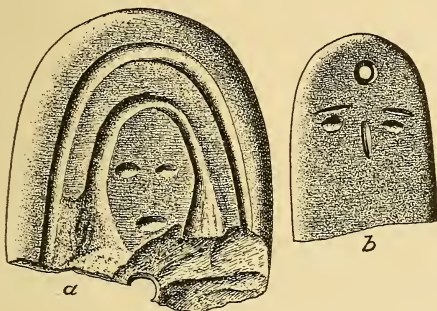


Fig. 52.—Gorgets, with human faces incised thereon, from Putnam site, Black River, Jefferson county. (Height of *a*, $2\frac{3}{8}$ in.)

any way as implements, it seems evident that they were from an animal killed in the vicinity and probably used as food.

Early records of settlers in Onondaga county show that large herds of bison visited the salt-licks near Syracuse, and a

sufficient number of bones have been found near the place to justify the belief that the records are true. Beauchamp has also commented on buffalo-bones from Jefferson county.

SUMMARY

The artifacts found at the Putnam site number three hundred bone implements, several thousand potsherds, one hundred and ninety-one clay pipes, sixty-three stone articles (of which twenty-five, or more than one-third, are beads); five objects of shell, and none of native copper. Accepting this site as typical of the Iroquois region, Jefferson county, we have a fair cultural index for comparison with other Iroquois and Algonkian remains of the same prehistoric period in New York state. There can be no doubt that for the Algonkians a similar numerical analysis of artifacts would show an equal plurality of stone objects over those of bone, a paucity of clay, and the presence, possibly, of native copper, steatite bowls, worked mica, and, of course, the polished slates—the tubes, ham-

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<p>merstones, two-holed gorgets, and bird-stones would be noted. The material culture of the early Iroquois of New York was, roughly speaking, a culture of bone and of clay that emphasized the pipe of terracotta in particular. The Algonkian culture was one which developed the working of stone.</p>	
AND MONOGRAPHS	

IV.—CONCLUSION



THE remains found on the sites of the villages and in the cemeteries of the Cayuga show that this people conformed with all the Pan-Iroquoian traits as given in the introductory part of this paper, and that, as might be expected from their geographic position during prehistoric times, their culture possessed many features in common with that of the eastern or Mohawk-Onondaga, although strongly marked by western features of the central subgroup.

Early resemblances to the eastern group were particularly noticeable in the light-reddish pipes and pottery, and in the numerical paucity of chipped-stone implements.

At a later period, during the contact of the Cayuga with white colonists from France and England, and before the abandonment of their ancient seats, western Iroquois influences became pronounced, and



ONONDAGA PIPE FORMS IN TERRACOTTA AND STONE FROM JEFFERSON COUNTY
(Height of *f*, 4 in.)



the types of pottery, pipes, and other artifacts found on sites of this epoch partake pronouncedly of Seneca-Neutral and even of Huron characteristics. Among these traits are jet-black, polished pipes of clay and round, squat, pottery jars. The use of chipped stone was also slightly extended.

In addition to these influences, it is highly probable that the Andaste or Susquehanna river Iroquois also made a cultural impression on the Cayuga, for it was by captives from this people that many of the Cayuga villages were largely increased. Unfortunately, Andaste archeology is little known, but some Cayuga pottery is reminiscent of that from the Susquehanna valley.

The culture of the prehistoric Onondaga has already been dealt with at some length in our Introduction. Suffice it to say that the Putnam site herein described fulfills every detail, save two, as a typical village of that people. The two requirements lacking are: situation on a hilltop, and fortification by log or earthen walls, or both. The site has yielded the characteristic eastern Iroquois pottery of extreme de-

velopment in great abundance and variety; numerous handsomely made bone and antler artifacts; quantities of clay pipes of beautiful technic and design; showed the customary lack of chipped-flint articles, and possessed the usual celts, beads, and crude stone utensils.

There is no indication that outside influences of any kind were at work on the ancient culture of the Onondaga, or that there was notable internal change in their material life during the period of the native occupancy of Jefferson county, except for the normal development of a few art motives such as the addition of modeled human faces luted on the rims of the pottery jars, apparently an outgrowth of the early conventional line-and-dot faces.

It may be added, however, that an examination of collections from Onondaga sites of late prehistoric times to the colonial period, situated in and near Syracuse, shows a rapid growth of western Iroquois influence as the colonial period advanced; so that those sites, dating from the Jesuit epoch on, are notable for the abundance of artifacts

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<p>typical of the Niagara frontier and of lower Canada. Especially is this true with regard to the forms of pipes, which show a less ancient character, and were perhaps ultimately crowded out, in form and technic, by the black clay pipes of western Iroquois design. This, of course, is accounted for by the large numbers of Huron and Neutral captives colonized by all the tribes of the Five Nations after their triumphant western campaigns.</p>	
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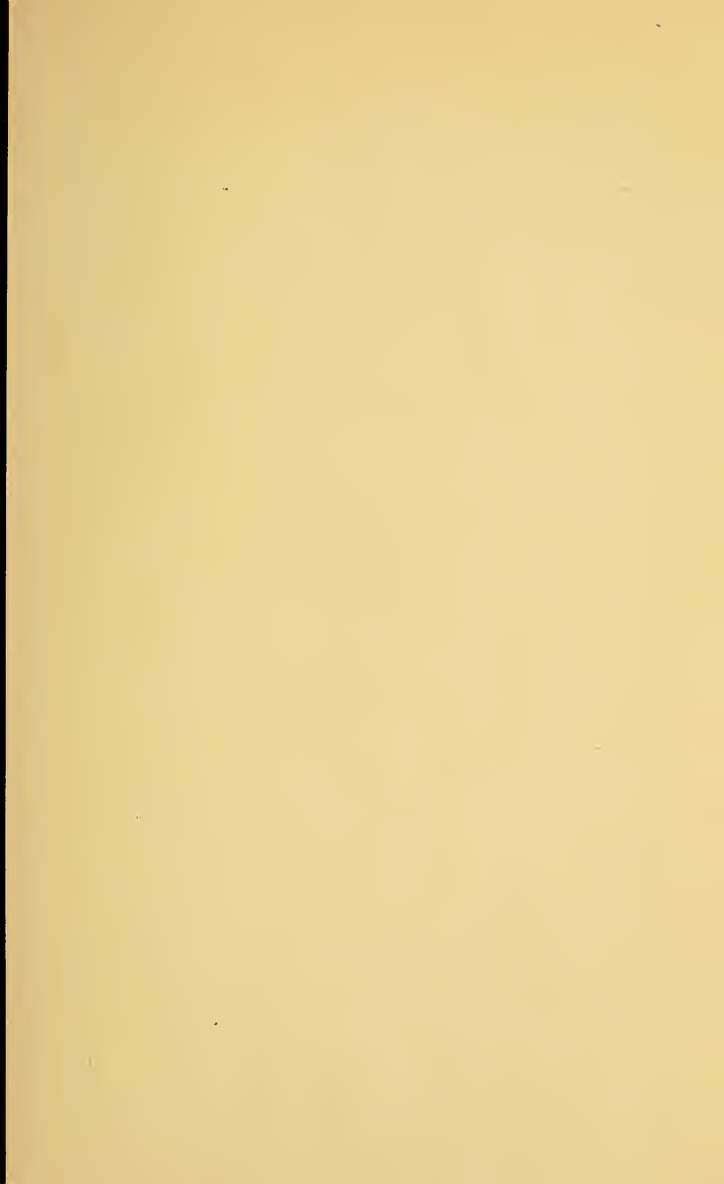
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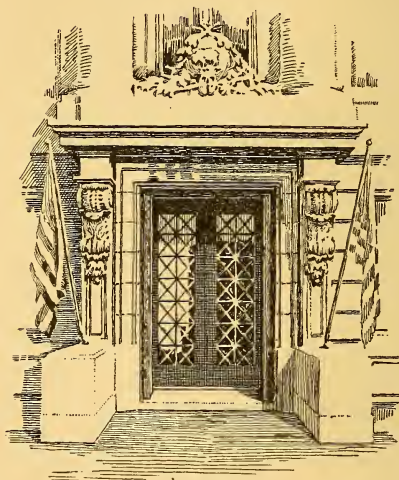
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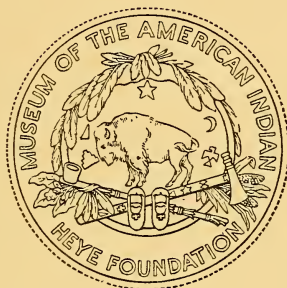


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